DENTAL ENGINES,

AND

ALL KINDS OF

ENGINE INSTRUMENTS

AND

APPLIANCES.

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NOTES.

In ordering extra Straight or Angle Handpieces, please say for which Engine they are required.

Always state which Handpiece is used when ordering Engine Instruments. If there is any doubt on this point, send an old bur as a pattern.

When ordering Right, Acute, or Obtuse-Angle Attachments, be careful to state for which Handpiece they are wanted.

The Instruments for these Attachments are shown on page 26. Do not omit to mention which style is required —Fig. 1 or Fig. 2.

We are prepared to supply all kinds of dental materials of American manufacture at published prices, including Engines, Engine Instruments and Appliances, that are mentioned or illustrated in any of the various American Catalogues and Journals.

When ordering goods always quote the figure or state the page of the Catalogue or List on which each article is to be found. This will ensure prompt and accurate execution of orders, and has become necessary now that there are various editions of the English and American Catalogues in existence.

Do not mutilate this or any other Catalogue by cutting out the illustrations. A reference to the page and figure, or article, will be quite sufficient, provided the name and date of the Catalogue are given.

Any article not in stock when an order is received will be obtained with the least possible delay.

CLAUDIUS ASH, SONS & CO., Ltd.

SHAW'S DENTAL ENGINE,

WITH

PATENTED ELBOW JOINT.

THIS Engine has all the motions of the **human elbow and wrist,** and is admitted by the first Operators to be the best that is made. For freedom of movement it is unequalled, and will bear the strictest comparison with any other for workmanship and finish. It is in general use at most of the Dental Hospitals in the United Kingdom.

DESCRIPTION:

The movable arm, which works at a right angle to the upright rod ***B***, has a flexible joint forming an elbow; this elbow is connected to the rod ***A*** by a spiral spring, which gives motion to the Mandrels.

A second spring connects the **Handpiece** with the rod ***A***, which is enclosed in a metal sheath to protect it from injury; this spring gives complete freedom to the Operator, and enables him to apply the instrument to any part of the mouth.

The position of the Mandrel ***A*** to which the Handpiece is attached must, when in use, be about at a right angle with the other portion of the flexible joint or elbow. If this rule be observed, the whole arm is so flexible, and the Handpiece so light in the hand, that the Operator can execute his work with the greatest ease to himself and comfort to the patient.

As the first joint of the flexible arm, when in use, points a little to the left of the patient, the treadle is placed to the left of the wheel, so that the Operator can reach the Handpiece without inconvenience.

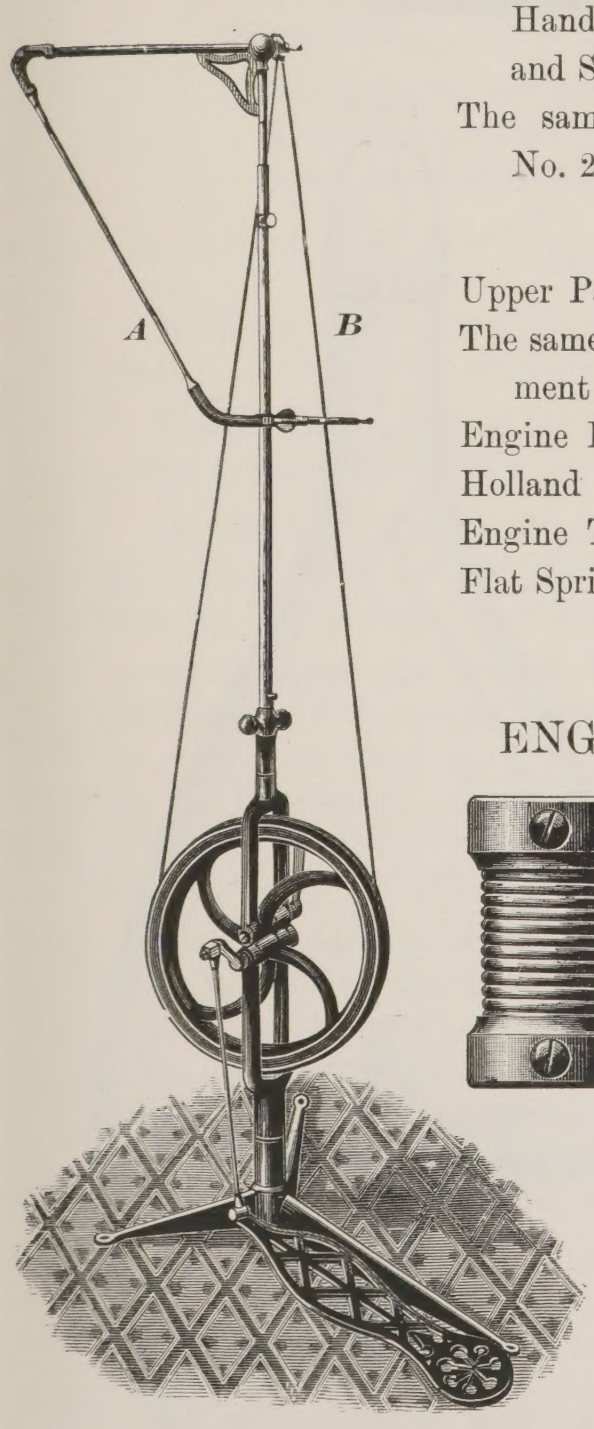
The Engine is made with a rocking motion, which allows the upright rod ***B*** to be drawn forward fifteen inches, or pushed a similar distance away from the vertical position. It is necessary when using this motion to take hold of the upright; it cannot be controlled from the Handpiece. The upright is made tension-tight, and will remain where it is placed.

Each Engine is fitted with the Improved Elbow Joint illustrated and explained on pages 4 and 5.

SHAW'S DENTAL ENGINE,

WITH PATENTED ELBOW JOINT—*continued.*

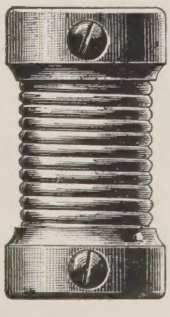
	£	*s.*	*d.*
Engine (all bright parts Nickel-plated), with Patented Elbow Joint, Improved Cone-Regulating or No. 7 Handpiece, Arm Controller, Oil Can, and Spanner	6	0	0
The same, with Ash's Slip-Joint or No. 2 Slip-Joint Attachment . .	7	0	0
Parts separately:			
Upper Part of Engine	3	10	0
The same, with either Slip-Joint Attachment	4	10	0
Engine Band	0	0	5
Holland Cover for Engine	0	2	0
Engine Treadle	0	5	0
Flat Spring Pitman	0	4	6



ENGINE AT REST.

E

ENGINE ARM CONTROLLER.



This device is the outcome of suggestions made by Mr. Louis Jeffery, of London, and is intended for drawing back the Arm of Shaw's Engine out of the Operator's way when it is set free after use.

To apply.—Put the Controller on the top of the Upright, place the Engine Arm in position, fit Band on Driving Wheel and Pulley, hold the Arm in the position in which it is required when at rest, and fix the Controller to it and the Upright by tightening up the two screws.

After use, the Handpiece should be placed at rest in the Spiral, which should be attached to the centre of the Upright.

	s.	*d.*
PRICE	2	6

IMPROVED ELBOW JOINT

FOR

DR. PARSONS SHAW'S DENTAL ENGINE.

FIG. 1.

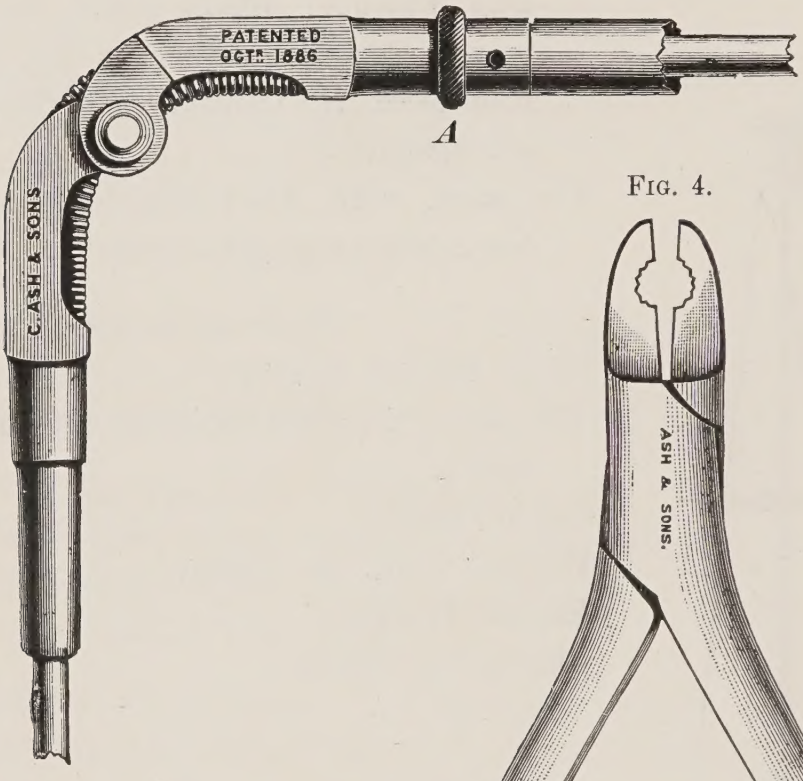


FIG. 2.

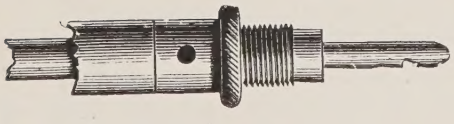
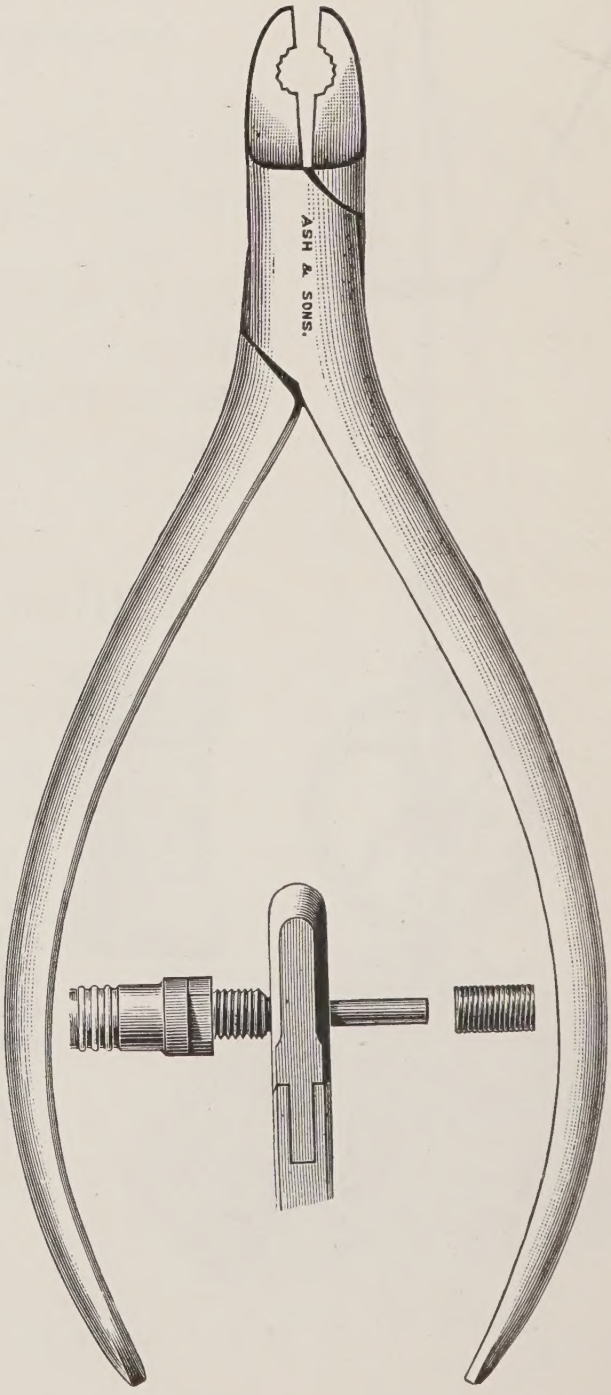


FIG. 3.

FIG. 4.



IMPROVED ELBOW JOINT—*continued.*

DESCRIPTION:

Fig. 1. Elbow Joint, with Inside and Outside Springs, complete.

„ 2. Shows end of horizontal Mandrel inside sheath at part ***A*** of Fig. 1.

„ 3. Shows end of vertical Mandrel—see ***B***—when the Elbow Joint is drawn down over it.

„ 4. Shows Pliers for holding the Mandrels while new Springs are fitted to or removed from them. The part between the handles shows how a Mandrel should be grasped with the Pliers.

DIRECTIONS:

In fitting or removing a Spring it should be turned to the left while forcing it on or pulling it off the Mandrel.

The action of turning the Spring to the left opens it sufficiently to permit of its being forced on or pulled off with comparative ease.

In removing or fitting on an Elbow or Wrist Spring of Shaw's Engine, the Spring should be held in a fold of thin rubber-dam, which clings to it in a way that nothing else will, and effectually protects the fingers.

To Renew the Inside Elbow Spring.—Grasp with the Pliers the shoulder of the vertical Mandrel, Fig. 3, below ***B***, remove the end of the old Spring which is on it, and press on one end of the new Spring as far as the shoulder. Then grasp with the Pliers the shoulder of the horizontal Mandrel, Fig. 2, remove the end of the old Spring, and force on the free end of the new Spring.

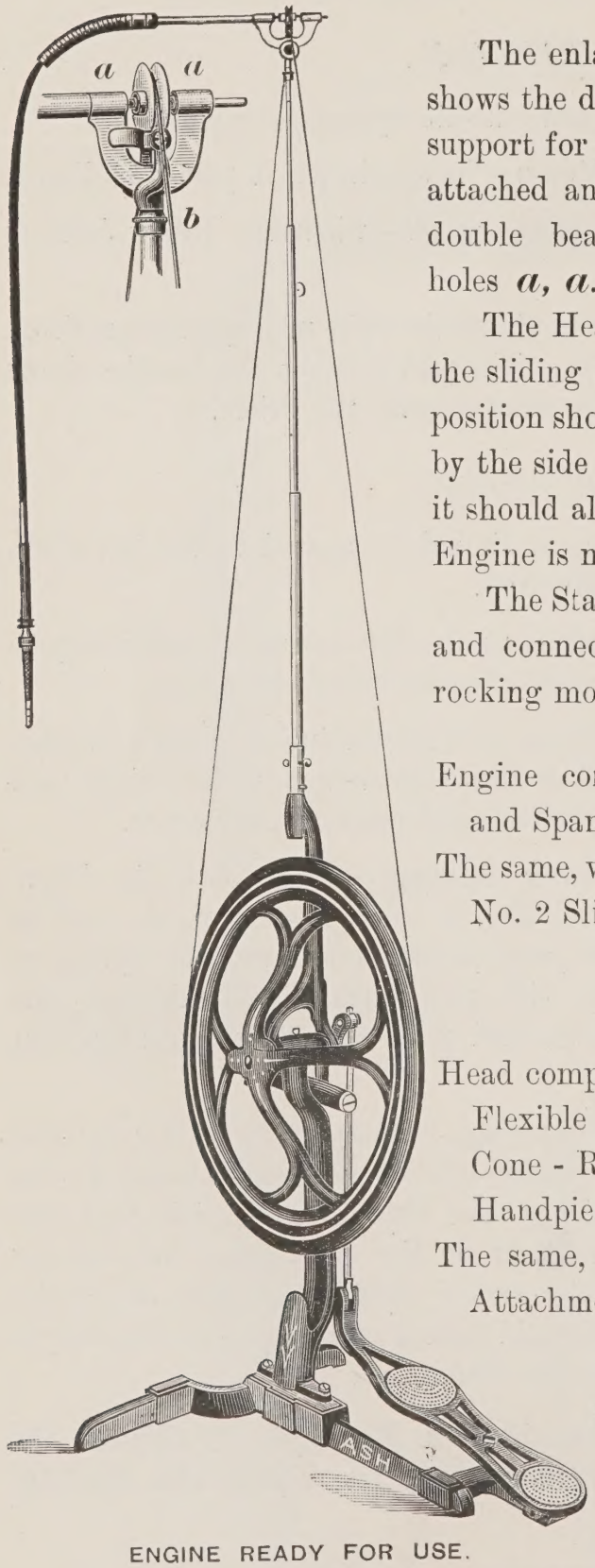
To Renew the Handpiece Spring.—Unscrew the leather-covered Wrist Spring and slide it along the sheath which encloses Mandrel ***A***—see page 3—out of the way. Then grasp the Handpiece Spindle with the Pliers, remove the old Spring from it, fit on the new Spring, and lay the Handpiece down. Take hold of the end of Mandrel ***A*** just above the shoulder with the Pliers, remove the old Spring and fit on the free end of the new Spring which is attached to the Handpiece.

To avoid the danger of bending a Mandrel, it should be held perfectly tight in the Pliers close to where the Spring is being removed or fitted.

	s.	*d.*
Engine Pliers, Nickel-plated	2	6

DOUBLE-BEARING CABLE ENGINE

(ASH'S ENGLISH MANUFACTURE).



ENGINE READY FOR USE.

The enlarged drawing in the illustration shows the double bearing, which affords good support for the spindle to which the cable is attached and ensures steady running. This double bearing is provided with two oil holes ***a, a.***

The Head of the Engine is controlled by the sliding collar ***b,*** and can be kept in the position shown in the illustration, or let down by the side of the upright, in which position it should always be allowed to rest when the Engine is not in use.

The Stand consists of Tripod with Treadle and connecting Rod, Upright with forward rocking motion, and large Driving Wheel.

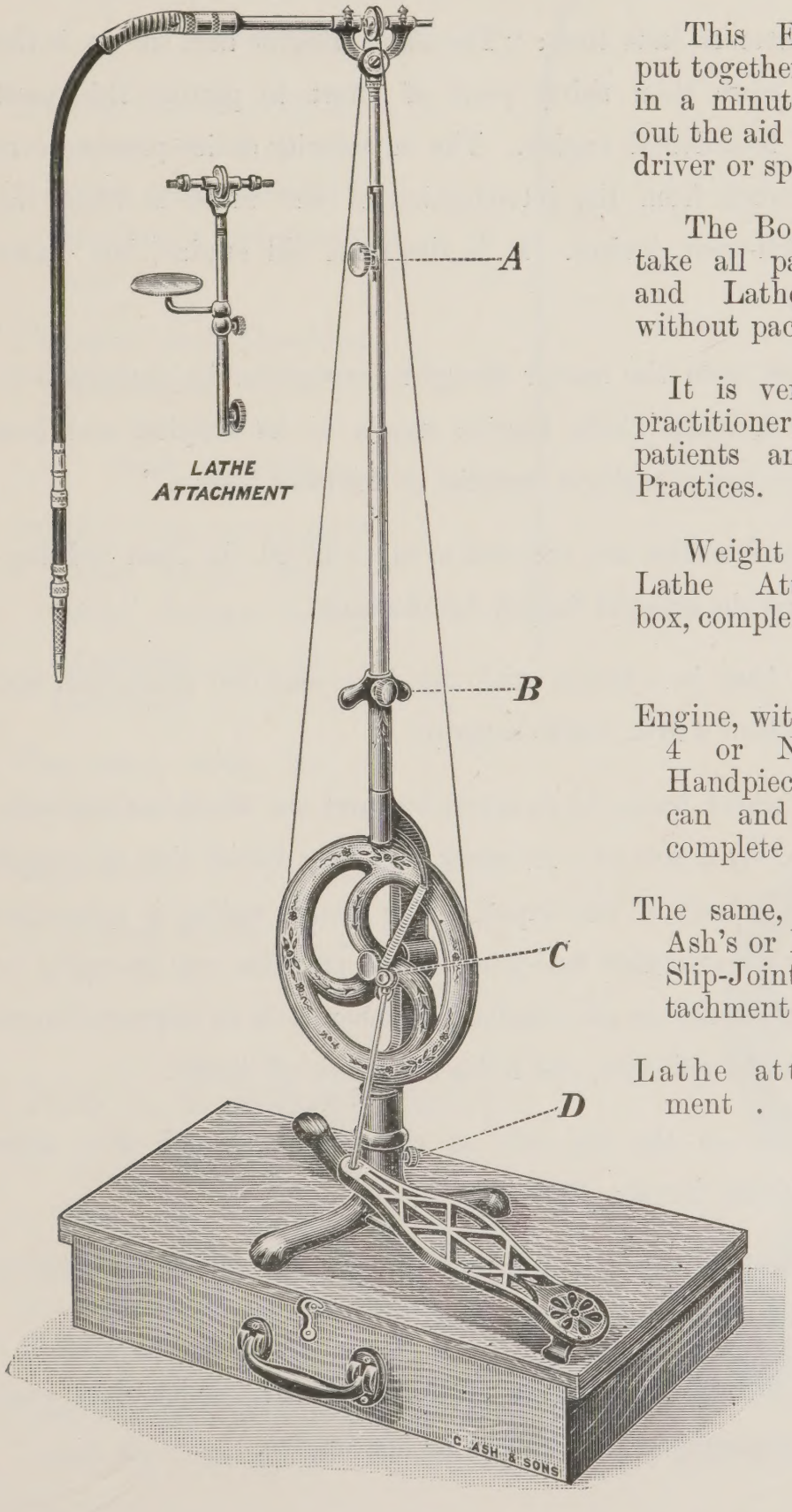
	£	*s.*	*d.*
Engine complete with Oil Can and Spanner	5	10	0
The same, with Ash's Slip-Joint or No. 2 Slip-Joint Attachment .	6	10	0

Separately :

Head complete with Arm Support, Flexible Attachment, and Ash's Cone-Regulating or No. 7 Handpiece	2	15	0
The same, with either Slip-Joint Attachment	3	15	0
Stand complete with Upright and Spanner	3	0	0

For ELECTRICAL ENGINES see our List of Electrical Apparatus, which can be had on application.

TRAVELLING ENGINE WITH CABLE HEAD.



This Engine can be put together or dismounted in a minute or two without the aid of either screw-driver or spanner.

The Box is blocked to take all parts of Engine and Lathe Attachment without packing.

It is very suitable for practitioners when visiting patients and for Branch Practices.

Weight of Engine, Lathe Attachment and box, complete, 32 lb.

	£	s.	d.
Engine, with No. 4 or No. 7 Handpiece, Oil-can and box, complete . .	6	0	0
The same, with Ash's or No. 2 Slip-Joint Attachment . .	7	0	0
Lathe attachment . extra	1	0	0

THE S. S. WHITE CABLE ENGINE.

The Manufacturers state that: "The Cable Engine here shown is the culmination of more than thirty years of effort to perfect this most popular type of foot dental engine. The superiority of its present form results not so much from the introduction of new ideas, as from the perfection of well-tried devices. It is the same old engine, but better in every respect.

Simplicity has been the master thought throughout its construction, and the new S. S. White Cable Engine stands in its simplest and best form, without the loss of a single essential or desirable feature."

All corners and angles are rounded so as to afford the least lodging-place for dust and the greatest facility for cleaning.

The Engine base is a tripod with one long and two short feet, and spread so as to afford a firm, stable support.

The driving-wheel frame is recurved to carry the wheel on one side, which is attached by means of a set screw, and is so dished that its weight is centred over the body of the tripod. The pitman spring is connected to the crank by a serviceable ball-joint, which prevents any cramping or binding by side pressure on the treadle. Further, it is an improved form, is smoother than the old style, and holds the crank off centre.

The treadle is on the left side of the Engine, which is a more comfortable position for the Operator.

The wheel is $12\frac{3}{8}$ inches in diameter; experience shows this size to be the most satisfactory to most Operators.

The arm is furnished with the reinforced sheath, which does away with the metal arm support and adds to its appearance.

THE S. S. WHITE CABLE ENGINE—

continued.

	£	*s.*	*d.*
Engine complete, with Reinforced Sheath, Duplex Spring connection, No. 7 Handpiece, and Equipment	7	5	0
The same, with Slip-Joint Attachment . . .	8	6	0

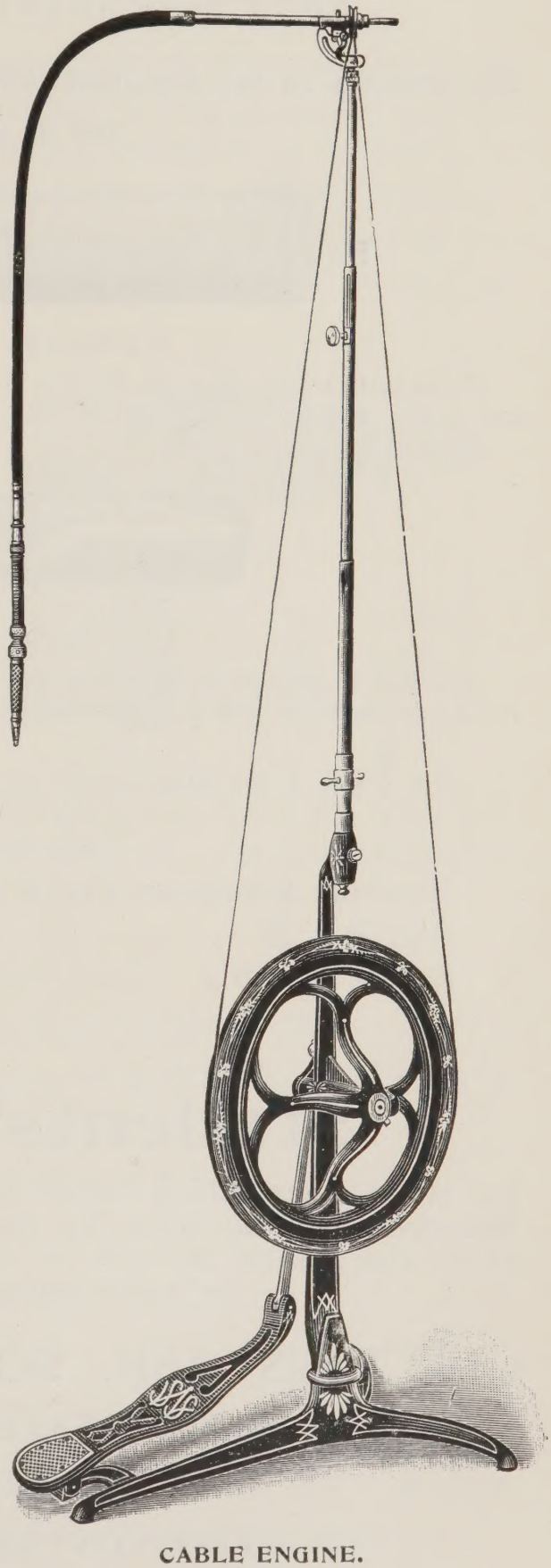
Parts separately:

		£	*s.*	*d.*
Flexible Arm, consisting of Pulley Head, Sheath, Cable, Duplex Spring connection, and No. 7 Handpiece		3	16	0
The same, with No. 6 Handpiece		4	0	0
Cable B . . .	each	0	3	2
Reinforced Sheath	,,	0	6	3

THE S. S. WHITE BELT ENGINE.

This is the latest form of the all-cord type of Foot Engine, and is a combination of the Doriot and Weber-Perry Engines.

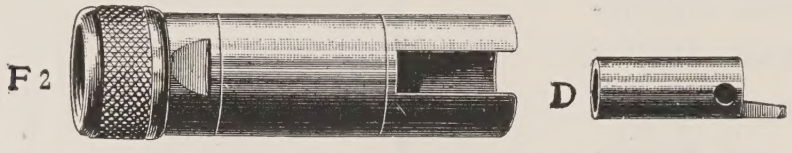
	£	*s.*	*d.*
Complete with Slip-Joint and No. 7 Handpiece	12	0	0



CABLE ENGINE.

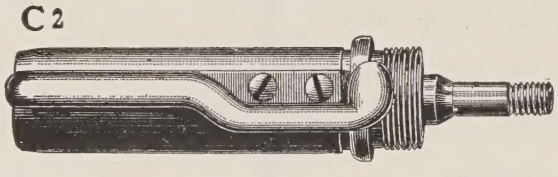
No. 2 SLIP-JOINT ATTACHMENT.

For remarks on the Slip-Joint Attachment and its advantages, see top of page 11.



F 2 FERRULE. **D** DOG.

These parts are fitted to the Straight Handpiece, Right or other Angle Handpiece, and Engine Mallets.



C 2 SLIP-JOINT.

This part is attached to the Engine, and will receive any Straight Handpiece, Angle Handpiece, or Mallet that is fitted with parts **D** and **F 2**.

	£	*s.*	*d.*
No. 2 Slip-Joint Attachment complete	1	0	10
Parts separately:			
Slip-Joint Attachment, Part **C 2**	0	15	8
Dog, Part **D**	0	1	1
Ferrule, Part **F 2**	0	4	2

Students' Outfits,

In strict accordance with the Latest Revised Lists of Requirements adopted by the various Governing Bodies of all the Dental Schools in the United Kingdom, supplied on advantageous terms by

CLAUDIUS ASH, SONS & CO., LIMITED,

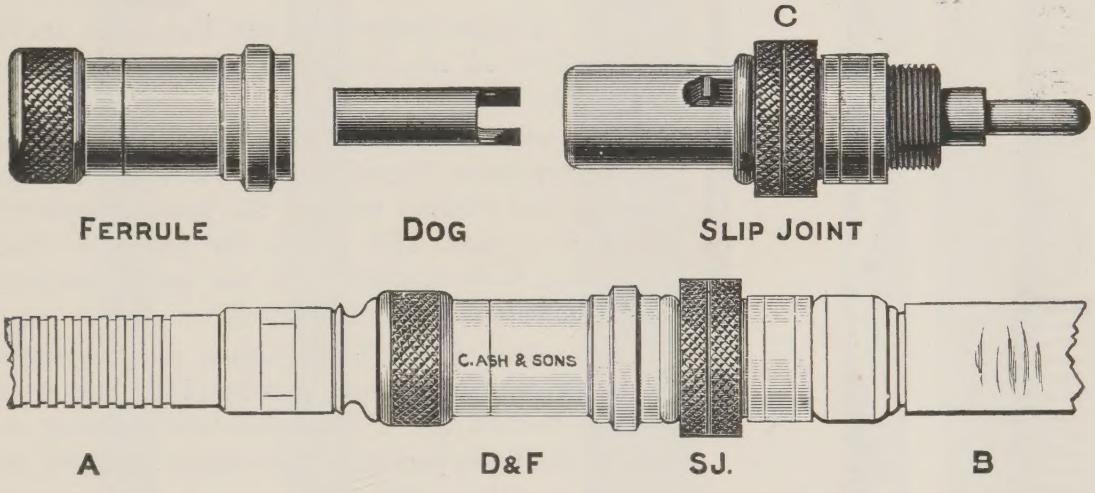
5 to 12, BROAD STREET, GOLDEN SQUARE,

LONDON, W.

LISTS ON APPLICATION.

ASH'S SLIP-JOINT ATTACHMENT.

The Slip-Joint Attachment is highly appreciated on account of its great usefulness. Those Operators who have it attached to their Engines are very pleased to find that the Straight Handpiece can be laid aside when they have occasion to employ the Right or other Angle Handpiece, or the Engine Mallet; and that while the Straight Handpiece is at rest it is not being worn out, as is the case when it is used to carry an Angle Attachment or Mallet.



The several parts of Ash's Attachment, viz., Slip-Joint, Dog, and Ferrule, are shown in the top row of illustrations. The lower illustration shows :—

A—Part of Handpiece.

D & **F**—Ferrule with Dog inside.

SJ—Slip-Joint with **A**, **D** & **F** connected to it.

Connection is made by simply pushing on **A**, **D** & **F**, and disconnection by drawing back sliding collar **C** on the Slip-Joint part.

B—Part of Flexible Attachment of Engine.

	£	*s.*	*d.*
Ash's Slip-Joint Attachment complete	1	0	10
Parts separately :			
Slip-Joint.	0	15	8
Ferrule	0	4	2
Dog	0	1	1

For No. 2 Slip-Joint Attachment, see previous page.

No. 4 CONE-REGULATING HANDPIECE

(C. ASH & SONS').

FIG. 1. FIG. 2. FIG. 3.

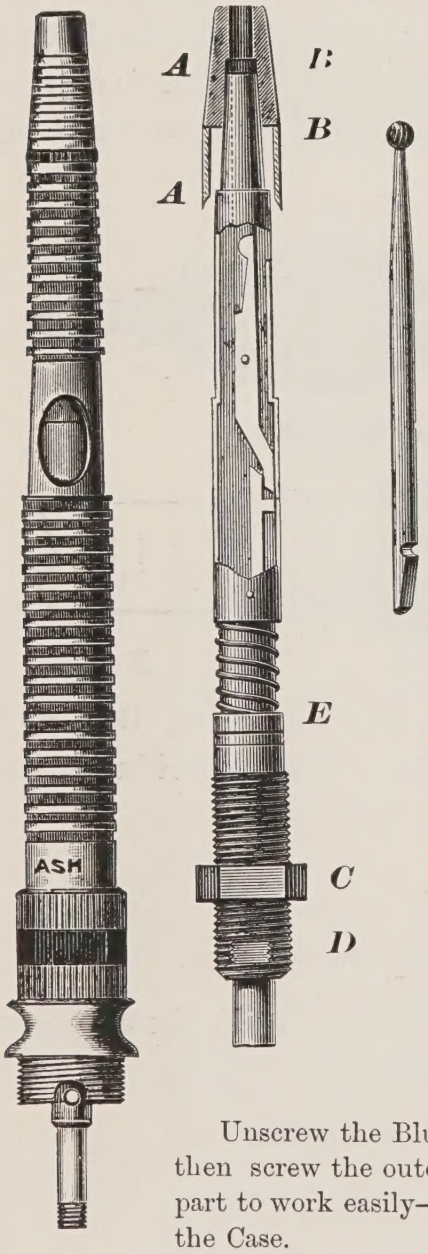
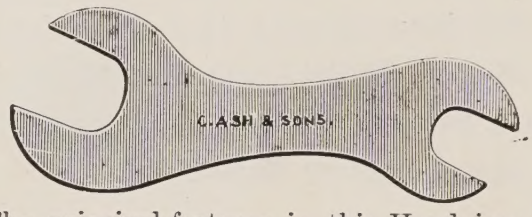


FIG. 4.



The principal features in this Handpiece are the Coned Part ***A A***, Socket ***B B***, and Regulating Screw ***D***.

It is well known that after a time the inner part of a Handpiece becomes loose, through constant friction and wearing away of the nose or socket in which it is fixed. This causes the points to shake about and work unsteadily, to the great annoyance and inconvenience of the Operator.

By means of the Coned Socket and Regulating Screw which have been introduced in the S. S. White's Pattern No. 4 Handpiece, the Operator can adjust the inner part and thus ensure a steady and reliable working of the point.

While removing a broken spring or fitting a new one, a pointed instrument should be inserted in hole of tang (Fig. 1) at ***F***.

DESCRIPTION:

Fig. 1.—Handpiece complete.
,, 2.—Inner part showing Coned Bearing ***A A***, Socket ***BB***, and Blued Jam-Nut ***C***.
,, 3.—Engine Bur for this Handpiece.
,, 4.—Regulating Spanner.

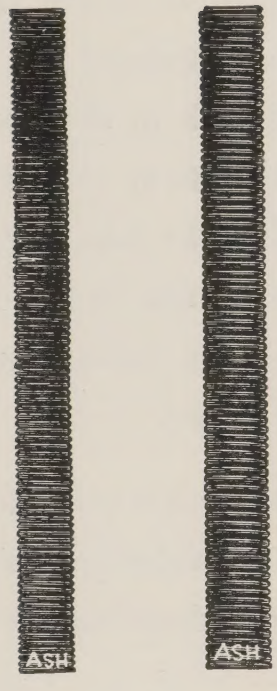
TO TAKE UP WEAR.

Unscrew the Blued Jam-Nut ***C*** with the large end of the spanner; then screw the outer case down towards it far enough to allow the inner part to work easily—but not too freely—and tighten the Jam-Nut against the Case.

	£	*s.*	*d.*
Handpiece, as illustrated . . . . . (Fig. 1)	1	9	0
,, with Flexible Attachment for Shaw's Engine . .	1	16	6
,, ,, ,, ,, for Double-Bearing Cable or White's Engine	1	16	6
Extra Steel Noses for Handpiece . . . . . each	0	4	0

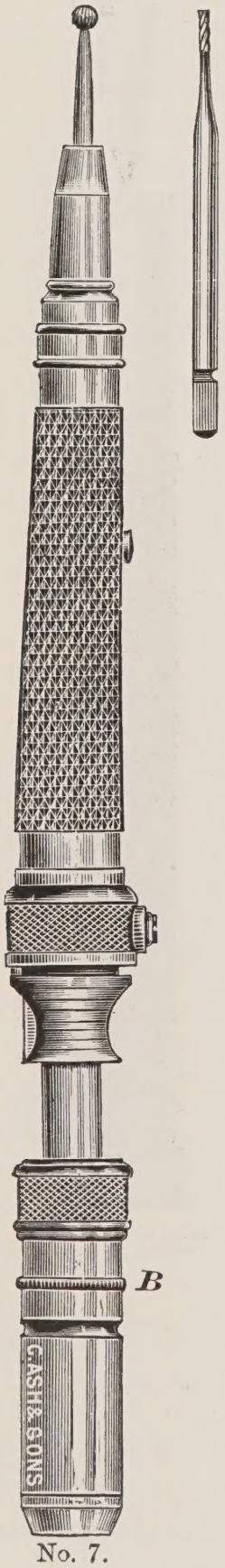
When ordering, please state for which Engine the Handpiece is required.

ENGINE SPRINGS AND FLEXIBLE ATTACHMENTS.



	s.	d.
No. 1.—Spring for Flexible Attachments, known as Wrist or Driving Spring	0	7
No. 2.—Elbow Spring for Shaw's Engine	1	0
No. 3.—Flexible Attachment for Shaw's Engine	7	6
No. 4.—Flexible Attachment for Double-Bearing Cable or S. S. White's Engine	7	6
Outside Spring for Nos. 3 and 4	0	6
Leather Cover „ „	0	5

The Engine Cable is attached to end *A* and Spring No. 1 to end *B* of the mount shown above this Flexible Attachment.



No. 7.

No. 7 CHUCK HANDPIECE.

To Secure a Bur in the Handpiece.—Push the Bur into the spindle as far as it will go, and draw out the front section of the Handpiece case, using only very *moderate* force. Try this a few times, observing how very little power is required to secure the Bur firmly, and so learn to avoid overstraining the Chuck apparatus. To release the Bur, push in the front section of the Handpiece. These motions can be easily made with one hand, by grasping the back portion of the Handpiece between the third and fourth fingers and the palm of the hand, and the forward end between the thumb and the first finger.

To Attach the Right Angle it is only necessary to place it over the end of the Handpiece, observing that the notch in the end of the sleeve engages with the stud ***A*** on the Handpiece. Close the Chuck as in securing a Bur.

For directions how to attach the Handpiece to different Engines, to Oil and Clean and to Take up Wear, see Descriptive Circular, which may be had on application.

	£	*s.*	*d.*
No. 7 Handpiece, without mount ***B***, ready for attaching to Flexible Attachment	1	9	0
The same, with Flexible Attachment for Shaw's, Double-Bearing Cable, or S. S. White's Engine	1	16	6

S. S. WHITE'S No. 6 CONE-JOURNAL HANDPIECE.

General Requirements for Taking Care of the No. 6 Handpiece.

No. 6.

To preserve a Handpiece in proper working order it is important :—

1. To keep saliva, rust, and dirt out of the bit-socket as far as possible. For this reason, the Handpiece should never be laid aside, after completing an operation, until the bit which has been used has been taken out of it. In spite of all the care that can be exercised, however, dirt will find its way to the working parts, and it becomes necessary, in order to preserve the efficiency of the Handpiece at its best for the longest possible time, to clean it thoroughly, say once a week. On account of the nicety of the adjustments of the No. 6 Handpiece, the smallest appreciable quantity of dirt or grit in the bearings will affect the running of the spindle.

2. To have the working parts at all times well lubricated. To this end the Handpiece should be oiled every day. Nothing but the best Handpiece or watch oil should be used. Sewing machine oils are not suited for lubricating the fine adjustments of this Handpiece.

To Secure a Bur in the No. 6 Handpiece.—Raise the lever No. 30, without using undue force, insert the shank of the bur into the nose of the Handpiece, giving the bur a slight turn until it is felt to engage with the latch ; after which push the lever back to its former position, thus locking the bit securely.

Illustrated Circular of Directions for use supplied with each Handpiece.

This circular can be had separately on application.

	£	*s.*	*d.*
No. 6 Handpiece, without mount ***B***, ready for attaching to Flexible Attachment. . . .	1	13	4
The same, with Flexible Attachment for Shaw's, Ash's Double-Bearing Cable, or S. S. White's Engine	2	1	0

ASH'S ASEPTIC RIGHT-ANGLE ATTACHMENTS AND HANDPIECES—

Nos. 4 and 5.

(PATENTED.)

The special features of these Attachments and Handpieces are as follows :—

1. They can be taken to pieces, every part sterilised, and put together again in a few moments.

2. They are made with small coned nose, which gives steadiness to the Bur, affords the Operator a clear view of his work, and enables him to reach with ease the bottom of deep cavities.

3. The steel frame of the Head of each is very strong, all the working parts are securely enclosed and the oil is retained in them ; they are thus rendered, as far as possible, inaccessible to saliva and dust.

4. One drop of oil put in the lubricating hole, underneath the spring catch, flows to all the working parts.

5. They are constructed to take both styles of right-angle instruments —Nos. 1 and 2—as shown in the illustrations.

6. The Heads can be fitted to most existing right-angle lower parts.

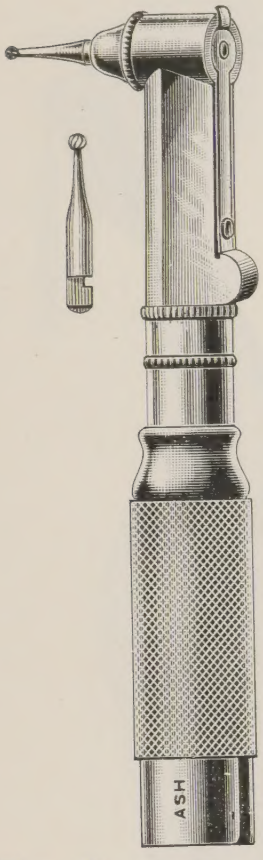
7. All the parts are interchangeable, and those liable to wear out can be readily and inexpensively renewed.

Directions for taking apart, etc., supplied with each Attachment and Handpiece.

ASH'S ASEPTIC ATTACHMENTS, ETC.—*continued.*

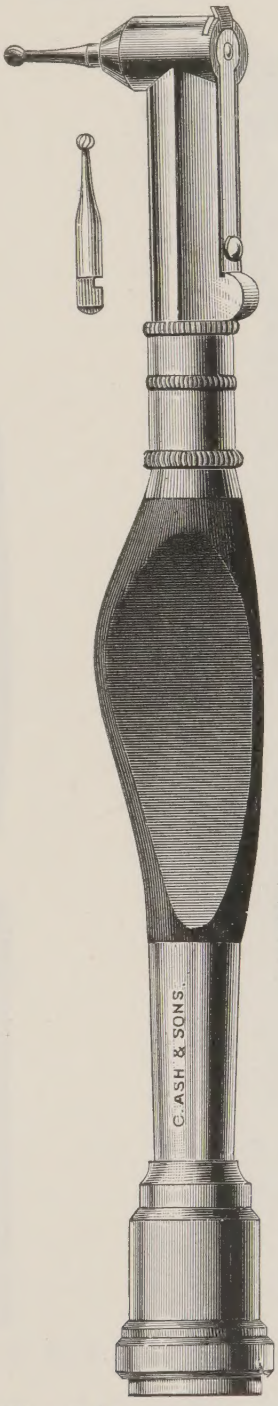
No. 4.

ATTACHMENT.



For No. 7 Handpiece; also made for Ash's Cone Regulating Handpiece.

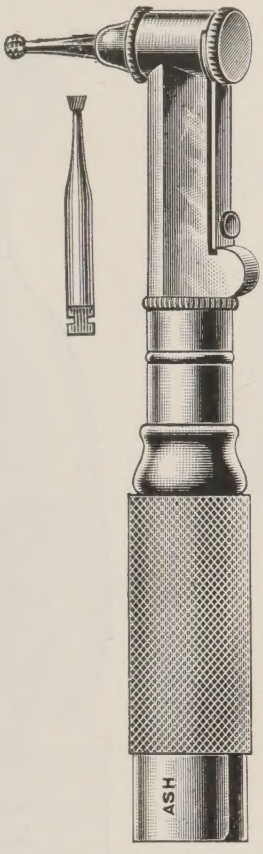
HANDPIECE.



For Ash's Slip-Joint or No. 2 Slip-Joint.

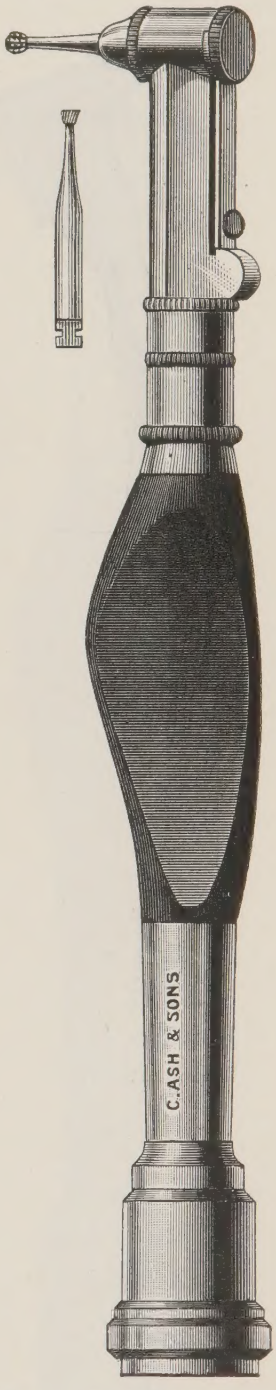
No. 5.

ATTACHMENT.



For No. 7 Handpiece; also made for Ash's Cone Regulating Handpiece.

HANDPIECE.



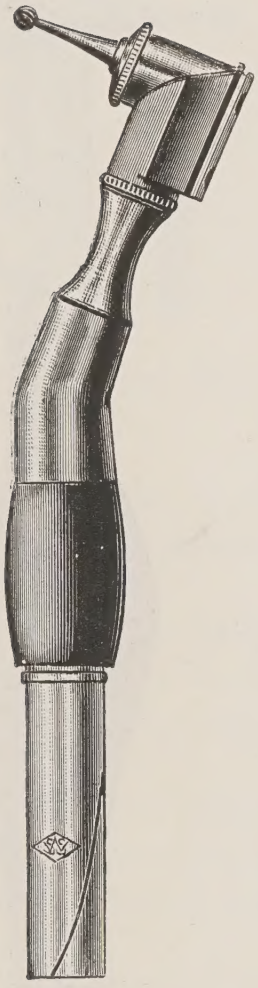
For Ash's Slip-Joint or No. 2 Slip-Joint.

		£	*s.*	*d.*
No. 4 Attachment, for No. 7 or Ash's Cone Regulating Handpiece .	each	1	0	0
No. 4 Handpiece, for Ash's or No. 2 Slip-Joint Attachment . . .	,,	1	12	0
No. 5 Attachment, for No. 7 or Ash's Cone Regulating Handpiece .	,,	1	0	0
No. 5 Handpiece, for Ash's or No. 2 Slip-Joint Attachment . . .	,,	1	12	0

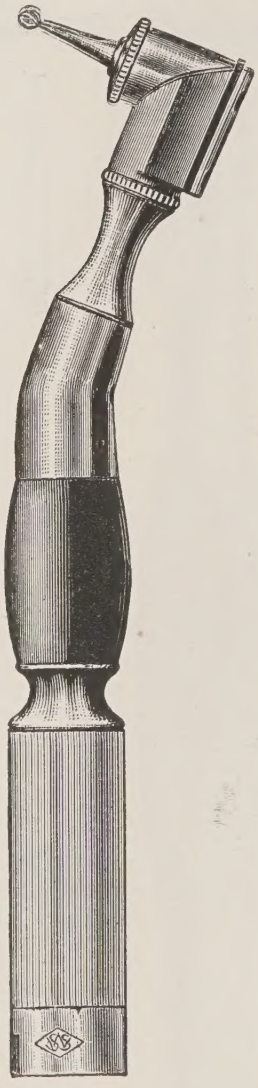
In ordering, be careful to state which is required.

CONTRA-ANGLE HANDPIECES.

(AMERICAN.)



FOR No. 4
HANDPIECE.



FOR NOS. 6 & 7
HANDPIECES.

FOR SLIP-JOINT No. 2.

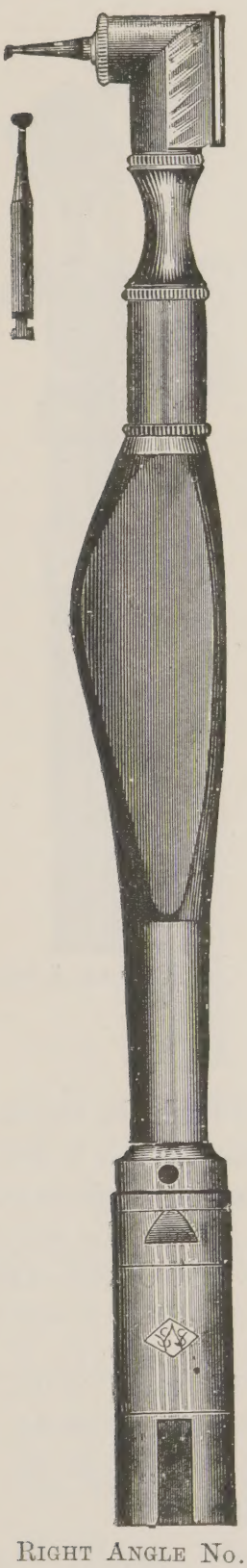
The Manufacturers state that "The essential novelty in the Contra-Angle Handpiece is the bend or elbow in the handle. This novel construction locates the head of the bur approximately in line with the axis of the Handpiece, and there is no tendency to turn or rock laterally. It is particularly adapted for cutting out buccal and lingual grooves of cavities which require much lateral pressure."

		£	*s.*	*d.*
For Nos. 4 or 7 Handpieces	each	1	5	0
,, No. 2 Slip-Joint Attachment	,,	1	13	4
,, Ash's ,, ,, ...	,,	1	13	4

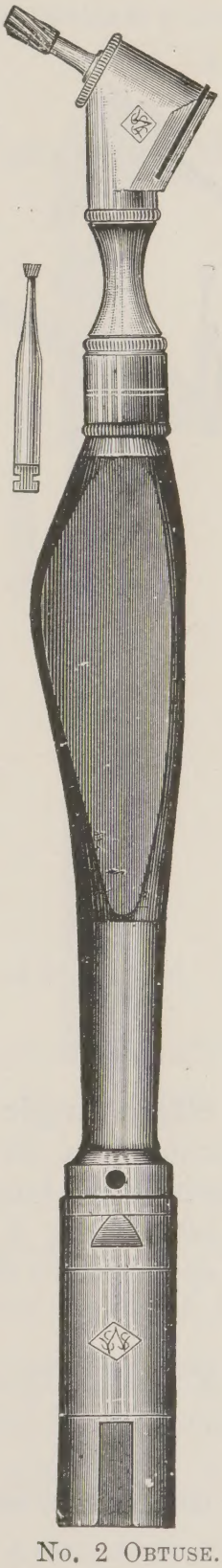
ANGLE HANDPIECES

(American Manufacture),

FOR No. 2 SLIP-JOINT ATTACHMENT.



RIGHT ANGLE No. 2.



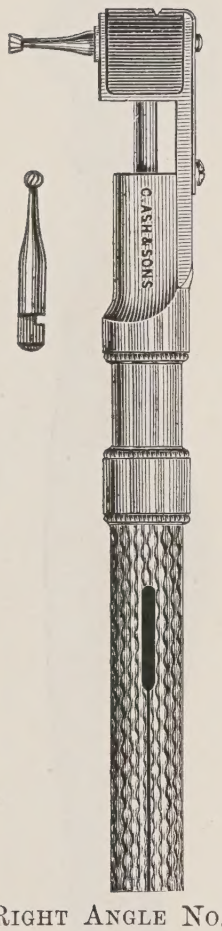
No. 2 OBTUSE.

No. 2 ACUTE.

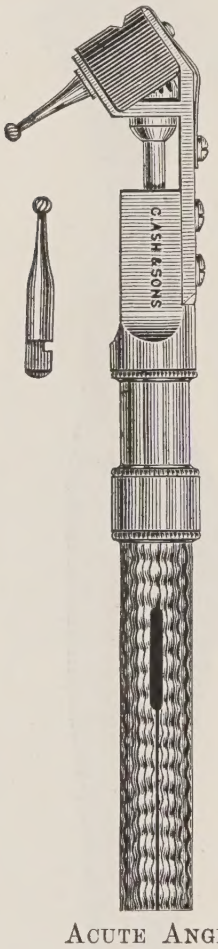
	£	*s.*	*d.*
PRICE, any form	1	5	0

ANGLE ATTACHMENTS,

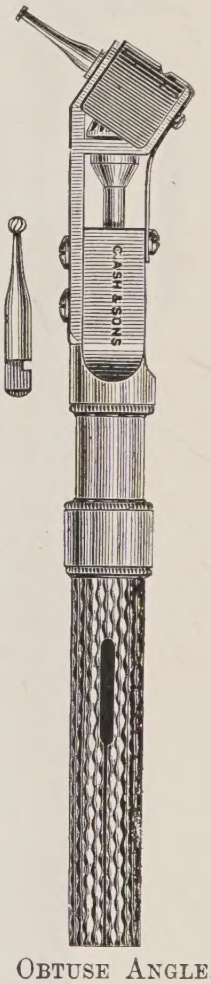
FOR No. 4 HANDPIECE.



RIGHT ANGLE No. 1.



ACUTE ANGLE.



OBTUSE ANGLE.

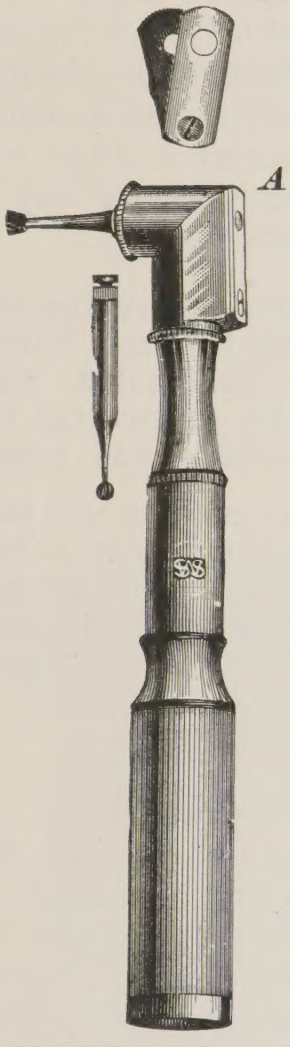
DIRECTIONS:

To Secure a Bit in the Right Angle No. 1.— Push the shank of the bit gently into the socket, turning it at the same time, until it is felt to engage with the carrier-pin. To remove a bit, lift the spring slightly with the finger-nail and pull the bit out, turning it to free it from the carrier-pin. These directions are also applicable to the Acute- and Obtuse-Angle Attachments.

			£	*s.*	*d.*
Ash's	Right Angle (No. 1), for No. 4 Handpiece, page 12	each	0	16	8
„	Acute Angle „ „ „	„	0	16	8
„	Obtuse Angle „ „ „	„	0	16	8
Any of the above adapted for Nos. 6 or 7 Handpieces, pages 14 and 15		„	0	16	8
Extra Hoods for Angle Attachments		„	0	4	0

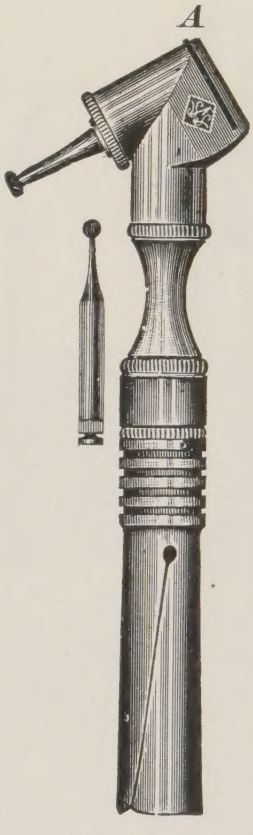
No. 2 ANGLE ATTACHMENTS—RIGHT, OBTUSE, AND ACUTE.

(American Manufacture.)



No. 2 Right Angle.

No. 2 Obtuse.



No. 2 Acute.

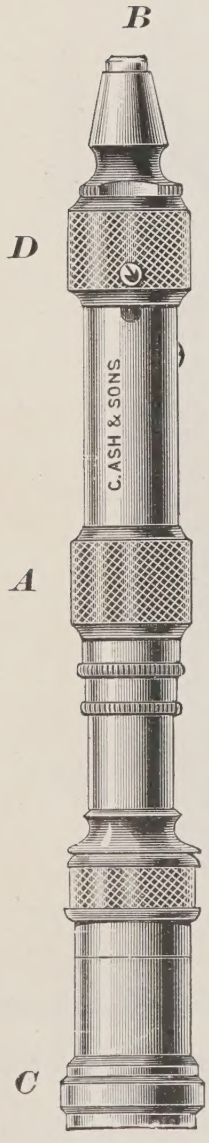
To Secure a Bit in Angle Attachments No. 2.—Catch the finger-nail on the milled free end of the latch ***A***, swing it out, and press the shank of the bit gently into the socket, turning it at the same time until the lug on the end is felt to pass the carrier-pin ; push the latch back to its position, when the bit will be held firmly. Opening the latch releases the bit, which can then be pulled out.

	£	*s.*	*d.*
No. 2 Right, Obtuse, or Acute Angle, for Handpieces Nos. 4, 6, or 7 . . . . . each	0	16	8

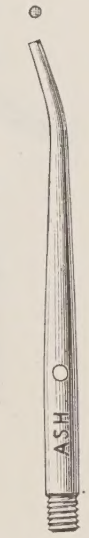
POWER'S ENGINE MALLETS

WITH IMPROVED STOP-ACTION.

FIG. 5.

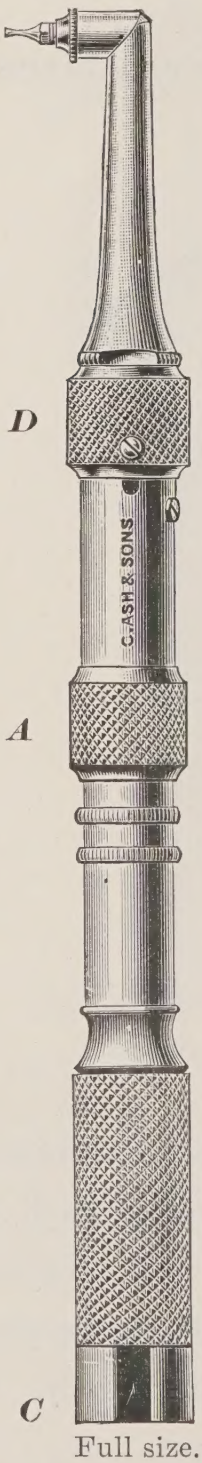


Full size.



Style of Point used in Fig. 5.

FIG. 6.



Full size.

Few Engine Mallets can be compared with Power's for range of blow, efficiency, ease of adjustment, durability and excellence of workmanship. They work equally well whichever way the Engine is driven.

CAUTION.—There are some very inferior imitation Power's Mallets in the market, which are so badly constructed that they are dear at any price.

The only genuine ones made bear our name, C. Ash & Sons, England, and we strongly advise purchasers not to accept any other.

DESCRIPTION:

Fig. 5.—Straight Mallet with Stop-Action, ***D***, which upon being drawn downwards with the finger stops the blow while the Engine is in motion, and enables the Operator to pick up gold, or to use the Mallet temporarily as a Hand Plugger.

Fig. 6. — Right-Angle Mallet with Stop-Action, ***D***.

A.—Milled Collar for regulating the strength of blow.

B.—Nose end of Mallets.

C.—Tang end of Mallets.

To keep in good working order, apply a little oil occasionally between the nose and the outer case at ***B***, and pour a few drops down by the tang at ***C***.

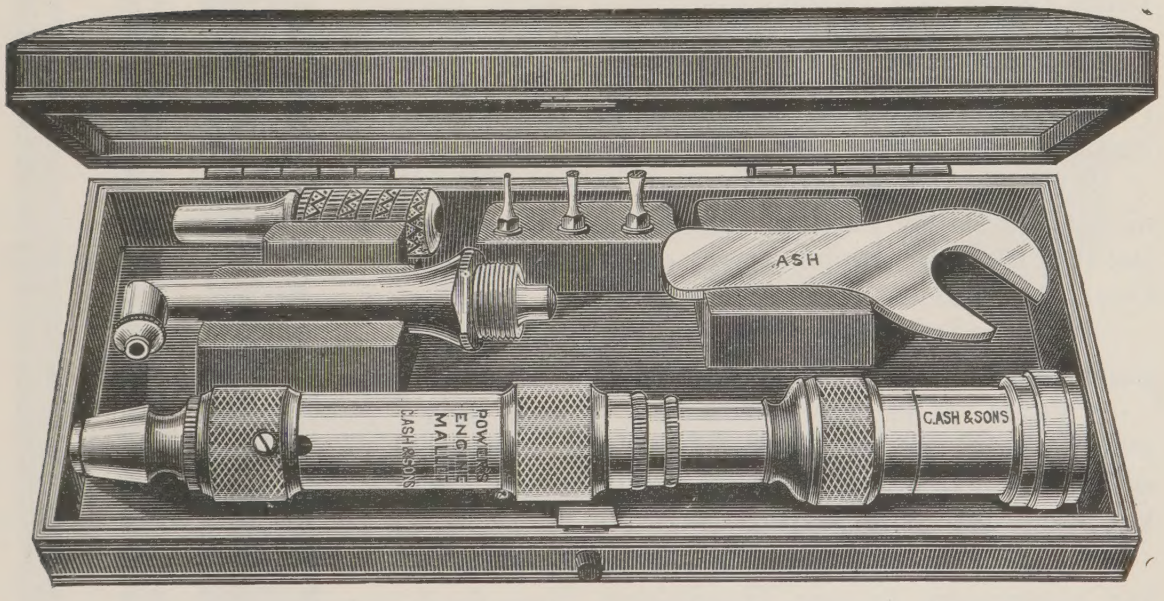
POWER'S ENGINE MALLETS—*continued.*

	£	*s.*	*d.*
Fig. 5.—Straight, for No. 4 or No. 7 Handpiece	1	4	0
The same, for Ash's Slip-Joint	1	12	6
„ „ American No. 1 or No. 2 Slip-Joint. .	1	12	6
Fig. 6.—Right Angle, for No. 4 or No. 7 Handpiece . . .	1	12	6
The same, for Ash's Slip-Joint	2	2	0
„ „ American No. 1 or No. 2 Slip-Joint. .	2	2	0
Three Plugger Points . . . . . extra	0	3	9
Leather Case . . . . . „	0	4	6

POWER'S INTERCHANGEABLE MALLET

WITH STRAIGHT AND RIGHT-ANGLE HEADS.

FIG. 7.



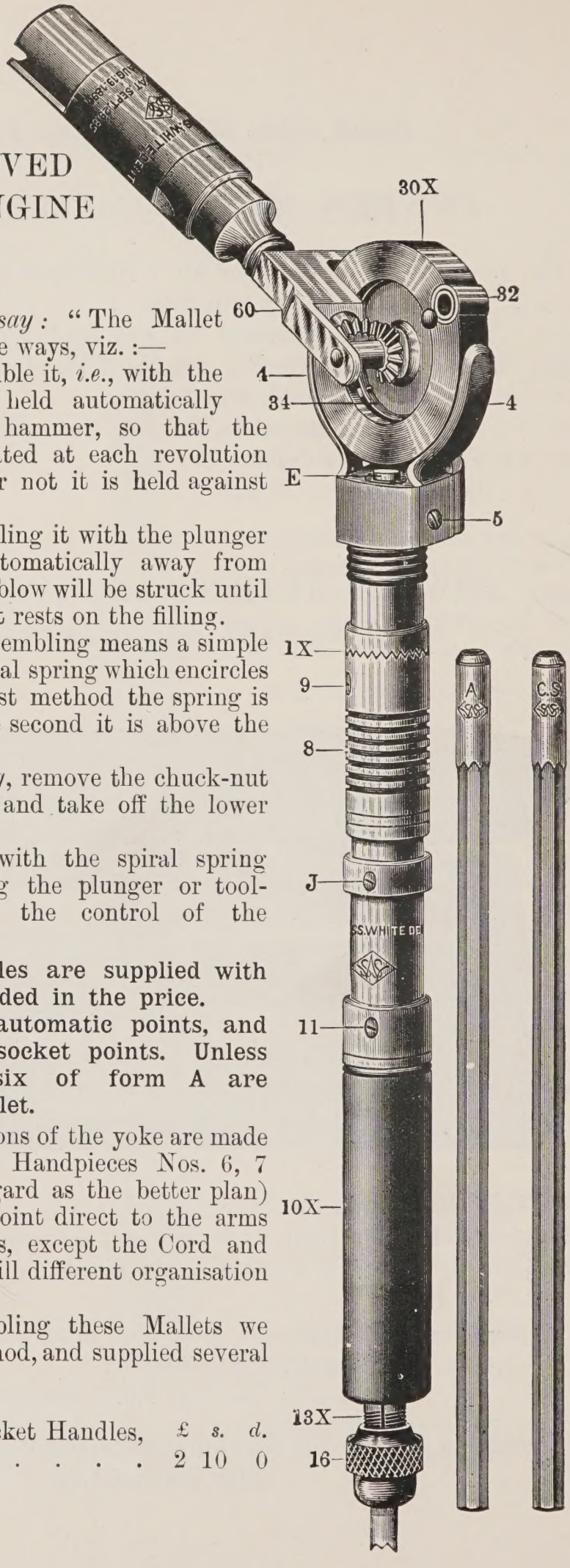
This Case shows the Straight Mallet with Right-Angle Head, three Plugger Points for right angle, Key for screwing same into Head, and Spanner for fixing and unscrewing the Heads.

	£	*s.*	*d.*
Fig. 7.—Interchangeable Mallet, as illustrated, complete in Case, for Slip-Joint	2	15	0
The same, for No. 4 or No. 7 Handpiece . .	2	7	6

In ordering Mallets for Slip-Joint Attachment, please state for which they are required.

No. 3 IMPROVED BONWILL ENGINE MALLET.

(S. S. WHITE'S.)



The Manufacturers say: "The Mallet may be operated in three ways, viz. :—

"*First.* As we assemble it, *i.e.*, with the plunger or tool-holder held automatically within range of the hammer, so that the plugging-point is actuated at each revolution of the wheel whether or not it is held against the filling.

"*Second.* By assembling it with the plunger or tool-holder held automatically away from the hammer, so that no blow will be struck until the plugging instrument rests on the filling.

"This method of assembling means a simple transposition of the spiral spring which encircles the plunger. In the first method the spring is below the collar; in the second it is above the collar.

"*To get at the spring*, remove the chuck-nut (16) and the screw 'J,' and take off the lower casing.

"*Third.* Dispense with the spiral spring altogether, thus leaving the plunger or tool-holder entirely under the control of the Operator's finger.

"Six socket handles are supplied with each Mallet and included in the price.

"Form A is for automatic points, and form CS is for cone-socket points. Unless otherwise ordered, six of form A are supplied with the Mallet.

"Various modifications of the yoke are made for attachment to our Handpieces Nos. 6, 7 and 8, or (which we regard as the better plan) by means of the Slip-Joint direct to the arms of our various Engines, except the Cord and Doriot. For these a still different organisation is supplied.

"When first assembling these Mallets we adopted the second method, and supplied several hundred in that way."

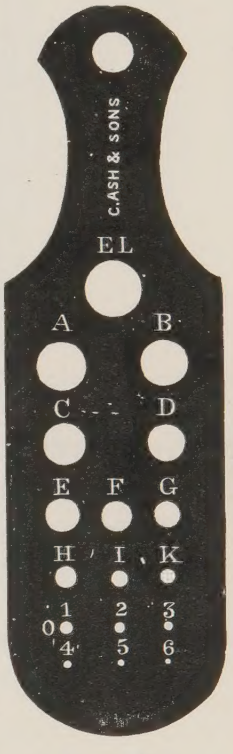
	£	*s.*	*d.*
Any fitting, with six Socket Handles, complete	2	10	0

ASH'S
BEST QUALITY STONED CAVITY BURS.

For excellence of temper, strength of blades, cutting power, and fitness for the work for which they are intended, our **Best Quality Stoned Cavity Burs** are highly esteemed by Dentists in all parts of the world.

They are made from carefully selected steel of the finest quality; they are regular in shape and true to gauge; all the blades on them are of equal length, and each one is brought to a keen-cutting edge by means of Arkansas Stone, with the result that they cut smoothly, rapidly, and with a minimum of pain to the patient.

The large demand which there is for them, coupled with our increased means of production, enables us to offer them to the Profession at the following favourable rates.



Ash's Bur Gauge.

For Nos. 4 and 7 Handpieces, and for Angle Attachments and Handpieces which take Nos. 1 and 2 styles of right-angle Burs, the prices are as follows :—

	Per doz.		Per ½ gross.	
	s.	*d.*	*s.*	*d.*
6/0 to size G on our Bur Gauge	5	0	27	0
F to D sizes „ „	6	0	33	0
C to A „ „ „	9	0	48	0
For No. 6 Handpiece :				
6/0 to G on our Bur Gauge	6	0	30	0
F to D „ „	8	0	42	0
C to A „ „	11	0	—	
Ash's Bur Gauge			2	6

INSTRUMENTS

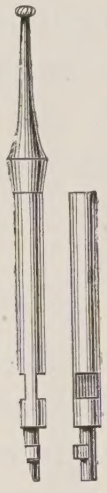
FOR THE VARIOUS STYLES OF HANDPIECES AT PRESENT IN USE.

For Handpieces

Nos. 4, 7 and 8.

For Handpiece

No. 6.



N.B.—When ordering Engine Instruments, please state for which Handpiece they are required. If there is any doubt on this point, send an old Bur as a pattern.

INSTRUMENTS FOR ANGLE ATTACHMENTS.

Fig. 1.

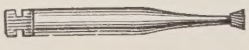


Fig. 2.

Fig. 1 is for Nos. 1, 3 and 4 Angle Attachments and Handpieces.
Fig. 2 is for Nos. 2 and 5 Angle Attachments and Handpieces.

When ordering, please specify style required.

LONG BURS AND DRILLS

FOR Nos. 1, 3 and 4 ANGLE ATTACHMENTS AND HANDPIECES.

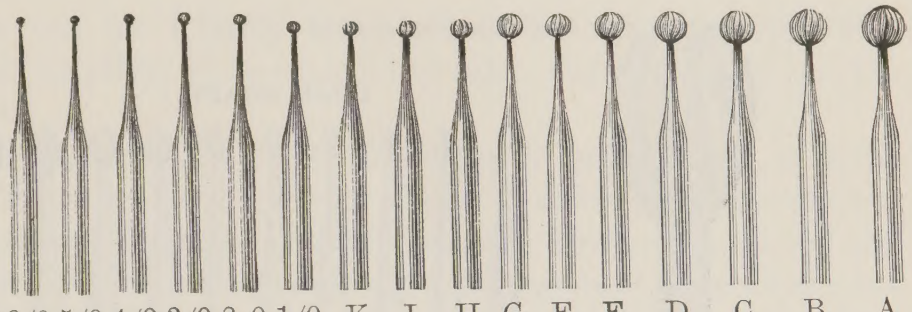
Burs and Drills for these Attachments and Handpieces are frequently required longer than Fig. 1, illustrated above, and to meet the demand which has arisen for them, we keep the most useful forms and sizes in stock, **an eighth of an inch longer than shown in the illustration.**

To distinguish them from the regular kind we have named them: Long Burs and Drills for Angle Attachments and Handpieces.

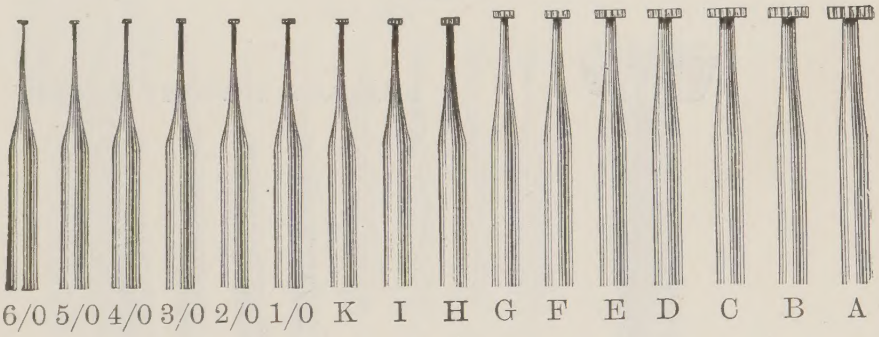
They are charged at the same prices as the regular kind.

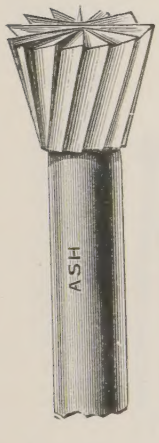
ASH'S BEST QUALITY BURS—*continued.*

ROUND.

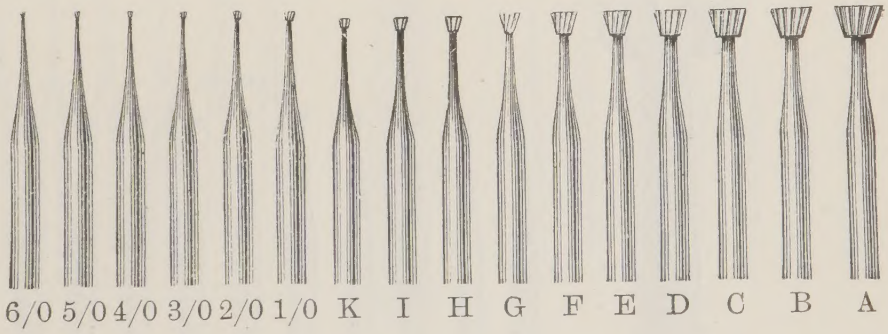


WHEEL.



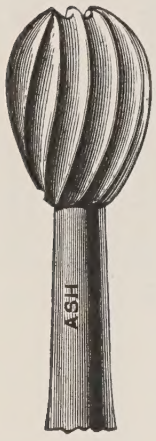


INVERTED CONE.

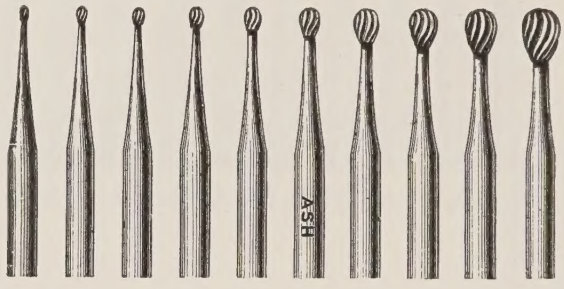


	Per doz.		Per ½ gross.		
	s.	*d.*	£	*s.*	*d.*
Sizes 6/0 to G on Bur Gauge	5	0	1	7	0
„ F to D „ „	6	0	1	13	0
„ C to A „ „	9	0	2	8	0

ASH'S BEST QUALITY STONED CAVITY BURS—*continued.*

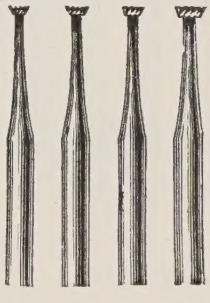


PEAR SHAPE.

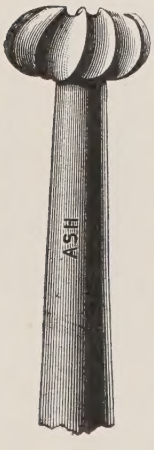


3/0 2/0 1/0 K I H G F E D

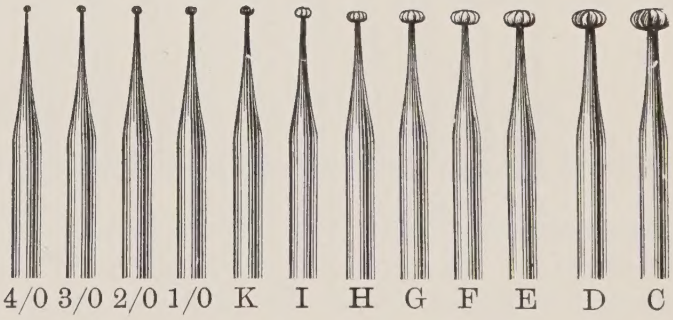
SHALLOW INVERTED CONE.



I H G F



OVAL.



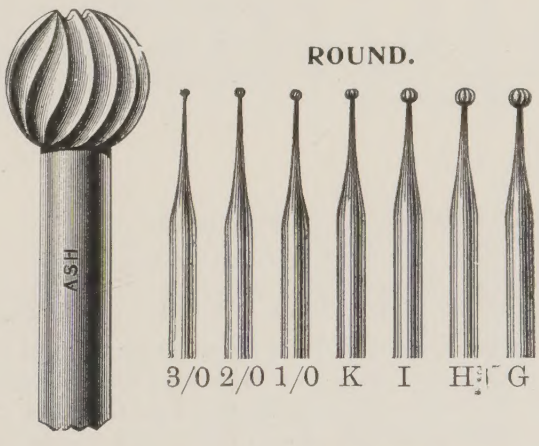
4/0 3/0 2/0 1/0 K I H G F E D C

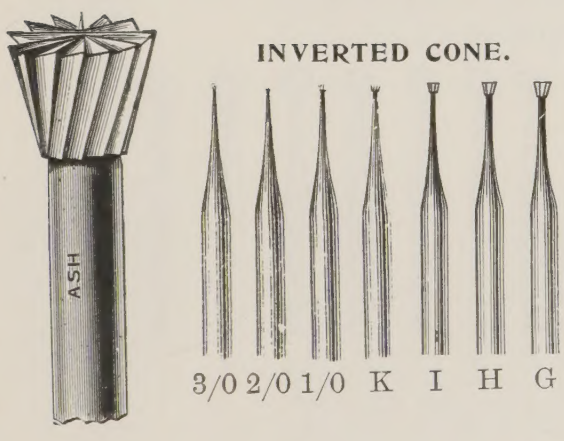
	Per doz.		Per ½ gross.		
	s.	*d.*	£	*s.*	*d.*
Sizes 6/0 to G on Bur Gauge	5	0	1	7	0
„ F to D „ „	6	0	1	13	0
„ C to A „ „	9	0	2	8	0

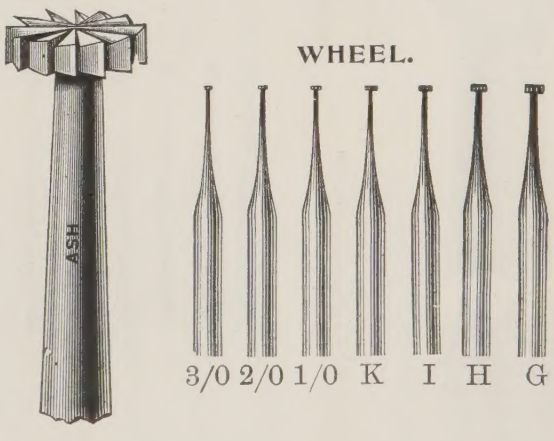
ASH'S
SECOND QUALITY BRITISH CAVITY BURS.

To meet the call for **Cheap Burs** which has arisen, we are now making a **second quality,** from exactly the same steel as we use for the best quality burs.

These Burs are thoroughly reliable **for temper** and **cutting power,** and only differ from our best quality in nicety of finish ; the labour thus saved on them accounts for the difference in price between them and the best. They are in every way adapted to serve the needs of those Operators who like to use Burs freely, and to throw them in the waste box when they have lost their keenness in cutting, without troubling to have them re-cut.



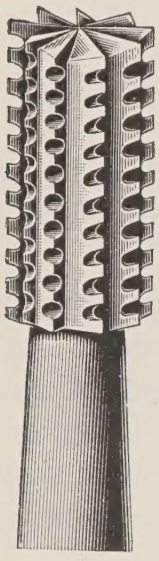




They are made in the shapes and sizes here illustrated, for Nos. 4 and 7 Handpieces, and for Angle Attachments and Handpieces which take Nos. 1 and 2 styles of right-angle Burs.

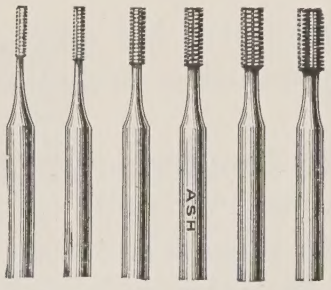
		s.	*d.*
PRICE	per doz.	3	0
,, ...	per gross	33	0

ENAMEL-CUTTING BURS.

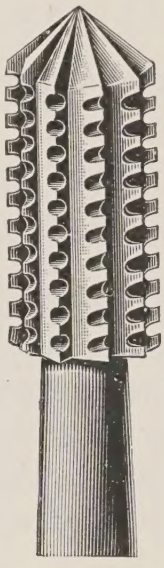


ENLARGED VIEW.

FLAT FISSURE.

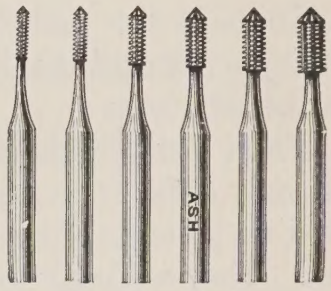


00. 0. K. I. H. G.



ENLARGED VIEW.

POINTED FISSURE.

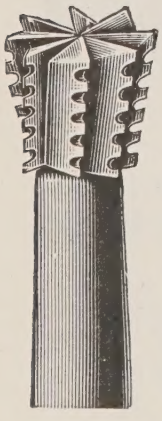


00. 0. K. I. H. G.

The heads of these Burs are fluted, as shown in the enlarged illustrations, each leaf is vertical, and has a saw edge. They cut enamel with great rapidity, and are very highly spoken of by those who use them.

		s.	*d.*
All sizes for	Handpieces Nos. 4, 7, 8 . . . . . per doz.	5	0
,,	Handpiece No. 6 . . . . . ,,	7	0
,,	any style of Angle Handpiece or Attachment . . . . ,,	5	0

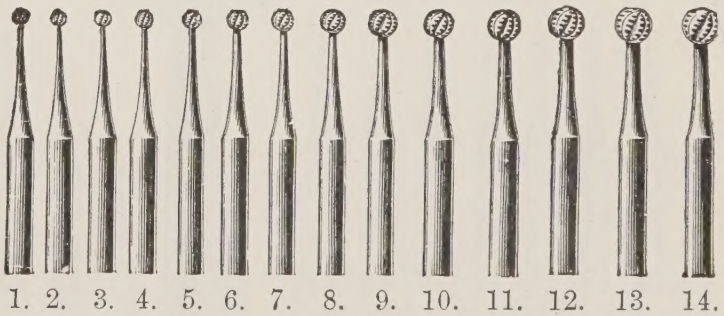
CROSS-CUT CAVITY BURS.



ENLARGED VIEWS.

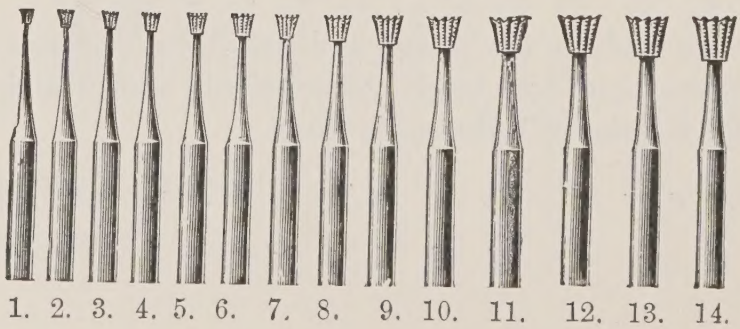
Like the enamel-cutting Burs shown above, each leaf on these cross-cut cavity Burs has a saw edge. Rapid excavation can be done with them, with little or no pain to the patient, when they are run at high speed and applied intermittingly to the tooth substance under operation.

ROUND.



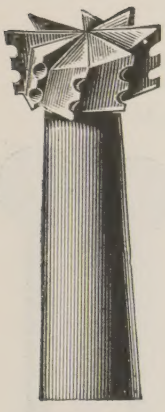
1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 13. 14.

INVERTED CONE.

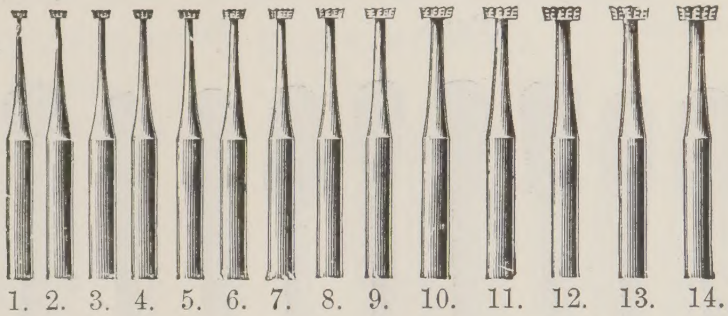


1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 13. 14.

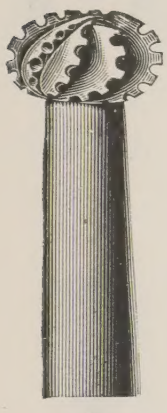
CROSS-CUT CAVITY BURS.



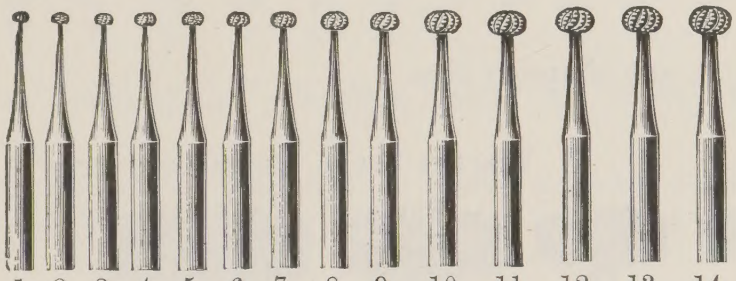
WHEEL.



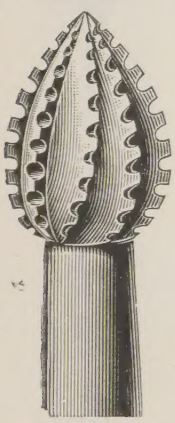
1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 13. 14.



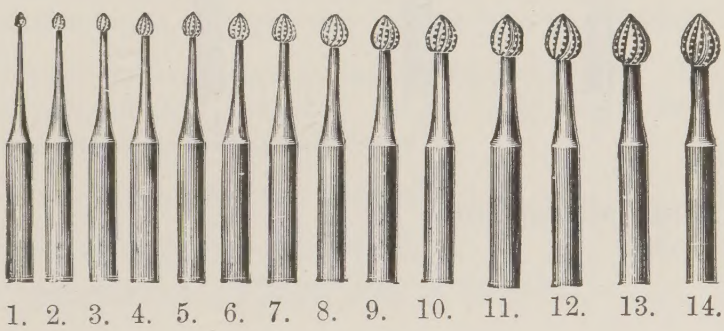
OVAL.



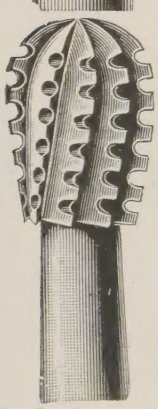
1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 13. 14.



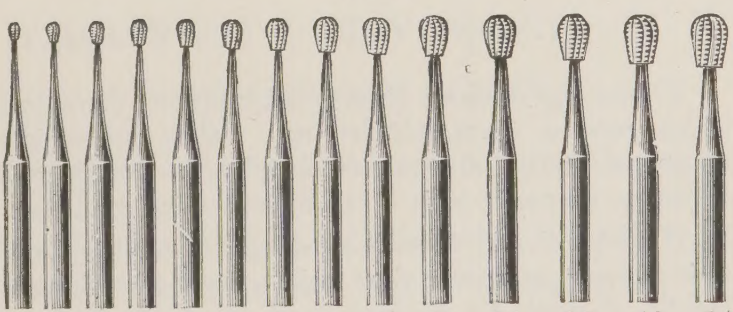
BUD.



1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 13. 14.



PEAR.



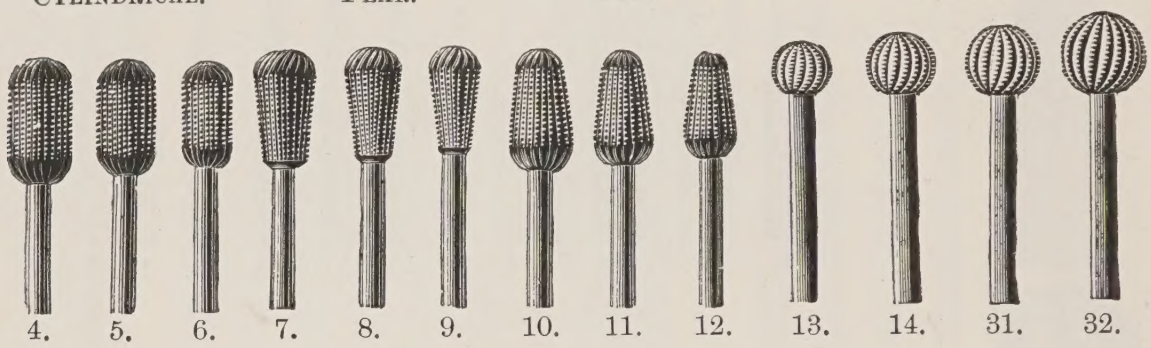
1. 2. 3. 4. 5. 6. 7. 8 9. 10. 11. 12. 13. 14.

ENLARGED VIEWS.

		For any Handpiece except No. 6 or any Attachment.		For No. 6 Handpiece.	
		s.	*d.*	*s.*	*d.*
Sizes 1–8, any shape	each	0	5	0	7
,, 9–11 ,, ,, ...	,,	0	6	0	8
,, 12–14 ,, ,, ...	,,	0	9	0	11

CROSS-CUT STEEL STUMP BURS.

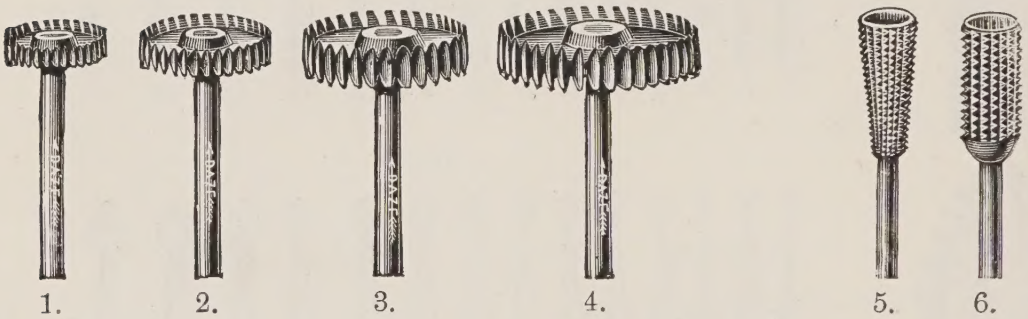
CYLINDRICAL. PEAR. BUD. ROUND.



4. 5. 6. 7. 8. 9. 10. 11. 12. 13. 14. 31. 32.

		s.	d.
PRICE, any shape or size	each	1	3

TUBULAR STUMP WHEELS AND BURS.



1. 2. 3. 4. 5. 6.

		s.	d.
PRICE, any size or kind	each	2	6

ROOT REAMERS.

(DESIGNED BY DR. J. LEON WILLIAMS.)

S L

Unlike the ordinary three-sided reamers, these instruments are grooved, which renders them self-clearing. They cut rapidly, never clog, can be sharpened on an oil-stone as easily as an excavator, and can thus, without difficulty, always be kept in the finest cutting condition.

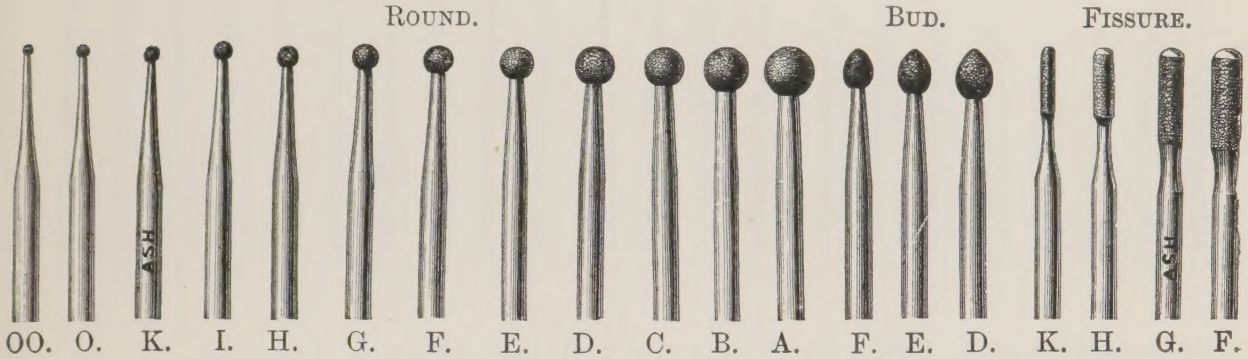
If used with care there is no danger of forcing them through the sides or ends of roots, moreover they make a large cone-shaped opening, which gives plenty of room for working, and is of the best possible shape for the reception of such tapering dowel-pins as the one designed by Mr. Nash, of Inverness. Made in two sizes, S—small, L—large.

		s.	d.
PRICE for any Handpiece, either size	each	1	3
„ „ Attachment, „	„	1	3

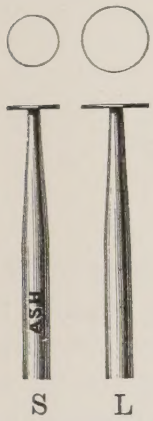
DIAMOND BURS,

FOR TRIMMING AND POLISHING ENAMEL MARGINS.

(Suggested by Dr. J. Leon Williams.)



Disc Burs.



Dr. Jenkins, of Dresden, says of these Diamond Burs :—

"They are superb. They make it possible to polish the edges of a cavity easily and most perfectly ; and grind so smoothly as to be a great comfort to the patient. They are far superior to small Arkansas stones, upon which I have hitherto been obliged to rely. . . . They are invaluable for my purpose in Inlay work, while for general use they must also be a great convenience. I am very grateful to you for furnishing such perfect instruments, and hope they will prove to be tolerably lasting."

We have every confidence in their lasting qualities. They are very carefully charged with Diamond. In use they should be run at high speed, and kept well wetted with water.

Prices for any Handpiece :		*s.*	*d.*
Round, Bud, Fissure, any size illustrated . . .	each	2	0
Disc Burs for fissures, etc., either size, S (small), L (large)	,,	2	6

DIAMOND DRILL,

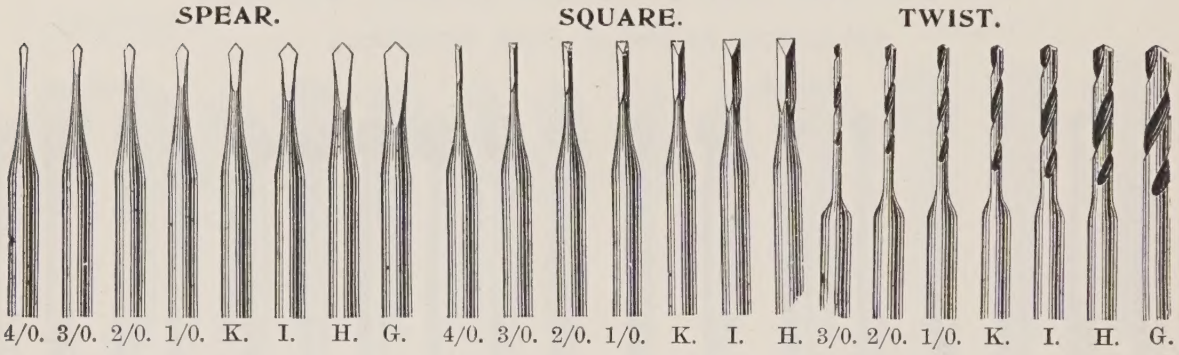
FOR MAKING CAVITIES IN ARTIFICIAL TEETH, Etc.

In using this Diamond Drill in the Engine the tooth or other article to be drilled should be placed on a board or table ; it cannot be sufficiently well supported in the hand to bear the pressure necessary to bore into a hard substance.

Turpentine or water should be used as a lubricant.

	s.	*d.*
For No. 4 or No. 7 Handpiece	3	6

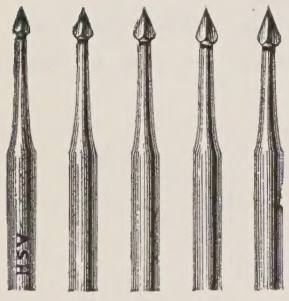
DRILLS.



		s.	d.
Spear and Square Drills for Nos. 4 and 7 Handpieces, any size	each	0	4½
The same for any Angle Handpiece or Attachment . . .	„	0	4½
Twist Drills for Nos. 4 and 7 Handpieces, any size . . .	„	0	9

TRIANGULAR OR TROCAR DRILLS

(Suggested by Mr. GEORGE PEDLEY).



Mr. Pedley says : "Trocar Drills are useful for opening fissures on the grinding surfaces of teeth, for penetrating enamel to reach decay, and for starting openings when trephining. The form of point prevents running about, so incidental to other forms of drills when commencing an opening ; and for this reason the smaller sizes are well suited for drilling through standing metal backs when replacing broken flat teeth."

These Drills are also extremely useful for cutting out old amalgam fillings.

		s.	d.
For Handpieces Nos. 4 and 7	(Figs. 1–5) each	0	4½
„ any Angle Handpiece or Attachment . .	(„ „) „	0	4½

PIN-SIZE ENGINE DRILL,

FOR PIVOT WORK, Etc., CORRESPONDING IN SIZE TO OUR PIN-SIZE WIRE.

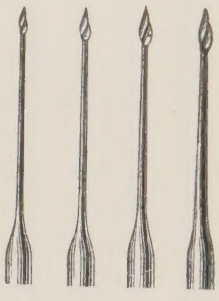
	s.	d.
PRICE for Nos. 4 and 7 Handpieces	0	9
„ any Angle Handpiece or Attachment .	0	9

When ordering any of the above, please state for which Handpiece they are required.

NERVE-CANAL INSTRUMENTS.

NERVE-CANAL DRILLS.

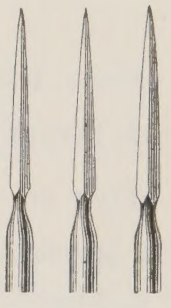
These Drills have recently been greatly improved, and give much satisfaction. The cutting edges are carried up to the guide point, which is found to be a decided advantage, as the drills cut much more rapidly and give less pain to the patient. Being carefully tempered, they are tough and not easily broken.



		s.	*d.*
PRICE for No. 6 Handpiece, any size . .	each	1	0
PRICE for any other Handpiece or any Attachment, any size	,,	0	10

TALBOT'S NERVE-CANAL REAMERS.

These Reamers are much esteemed for the rapidity with which they cut, and can be sharpened on an oil-stone when they become dulled.



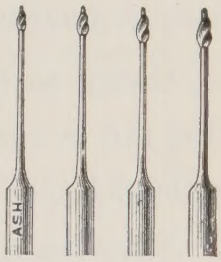
		s.	*d.*
PRICE for any Handpiece or Attachment .	each	0	10

SHORT NERVE-CANAL DRILLS.

FOR RIGHT-ANGLE ATTACHMENTS.

These Drills are a quarter of an inch shorter in the stem than our regular stock sizes, and will be found very useful in those cases in which the longer Nerve-Canal Drills cannot conveniently be employed for want of sufficient room in the mouth.

They are made in sizes extra small, small, medium, and large, as here shown.

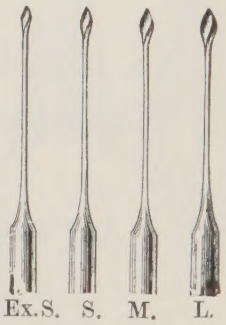


		s.	*d.*
PRICE for any Attachment, any size . .	each	0	10

NERVE-CANAL DRILLS.

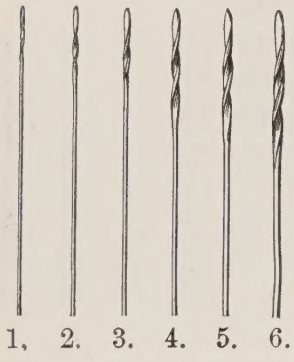
(DR. ST. GEORGE ELLIOTT'S.)

These Drills cut very rapidly, and can be sharpened on an oil-stone when they become dulled. They are novel in form, each head consisting of three leaves so arranged that the greatest amount of strength is secured with extreme delicacy of edge.



		s.	*d.*
PRICE for No. 6 Handpiece, any size . .	each	1	0
PRICE for any other Handpiece or any Attachment, any size	,,	0	10

BEUTELROCK'S NERVE-CANAL INSTRUMENTS.



Since their introduction these instruments have found much favour with Operators all over Europe.

They are made of a new kind of steel, which is treated in a special manner to ensure the greatest possible amount of flexibility and toughness; there is thus very little danger of their breaking in root-canals.

The blades are so formed as to be self-clearing, and with ordinary care have no tendency to become jammed in use.

Owing to the fineness, high finish, and flexibility of the instruments, they can be employed with confidence in small and in tortuous root-canals without fear of penetrating the walls.

They cut rapidly, without generating sufficient heat to give pain to the patient, and thus enable the Operator to work quickly with comfort and freedom from anxiety.

Made in six sizes, as illustrated:

No. 1 smallest, No. 6 largest for straight Handpiece.

The same sizes, numbered 7 to 12, for Angle Attachments.

		s.	*d.*
Any size, for No. 4 or No. 7 Handpiece . .	each	1	0
„ for No. 6 Handpiece	„	1	2
„ for Angle Attachment	„	1	0

NERVE-CANAL BUR

(Mr. HERN'S).

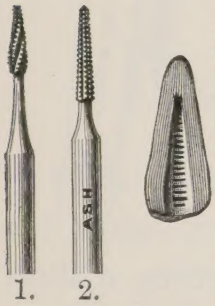
Mr. Hern describes this as a "coarse-cut, cone-shaped Bur for opening up and 'funnelling out' the orifices of pulp canals at their coronal ends, or at their junction with the common pulp chamber." He claims that it "gives great freedom of access for removing devitalised pulps as well as for dressing and filling the canals"; also that its cone shape enables the Operator to do, with scarcely more than a touch, what could only be done with a fissure Bur by a tedious circumduction of the instrument; and further, that the risk of boring the canal is reduced to a minimum. The right-angle point is made with long shank to reach the orifice of the canal.

		s.	*d.*
PRICE for any Handpiece or Attachment .	each	0	10

ROOT ROUGHENERS

(Suggested by Mr. W. R. HUMBY).

Fig. 1 is flame-shape, and Fig. 2 has a long, square, tapering head. They are both made with saw edges like the enamel-cutting Burs shown on page 30.



1. 2.

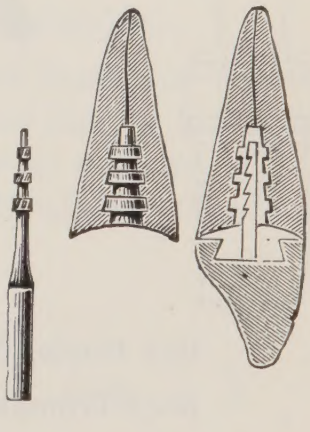
Mr. HUMBY says:—"The advantages I claim for the root rougheners are:—

1. That the hole may be roughened in the widest diameter of the root; and
2. That the size of the grooves is automatically proportioned, as shown by the section of the root illustrated, the larger grooves being in the thick end, while the smaller ones are at the apex, with tapering intermediate sizes."

		s.	*d.*
For Handpieces Nos. 4, 7, 8	(Figs. 1, 2) each	0	6
„ Handpiece No. 6	(„ „) „	0	8

GROOVING BUR,

FOR MAKING RETAINING POINTS IN THE WALLS OF ROOTS PREVIOUS TO FILLING AND CROWNING.

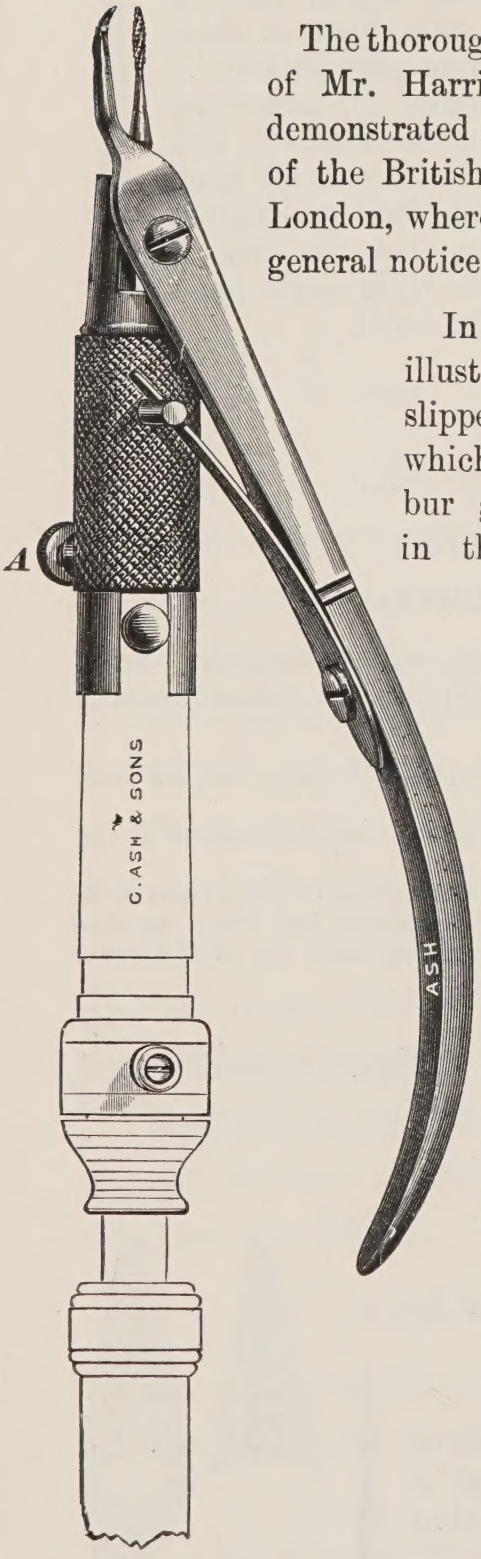


When the barbed pin upon which the crown is mounted is pressed home, the filling material is forced into the grooves, and a secure hold is thus obtained.

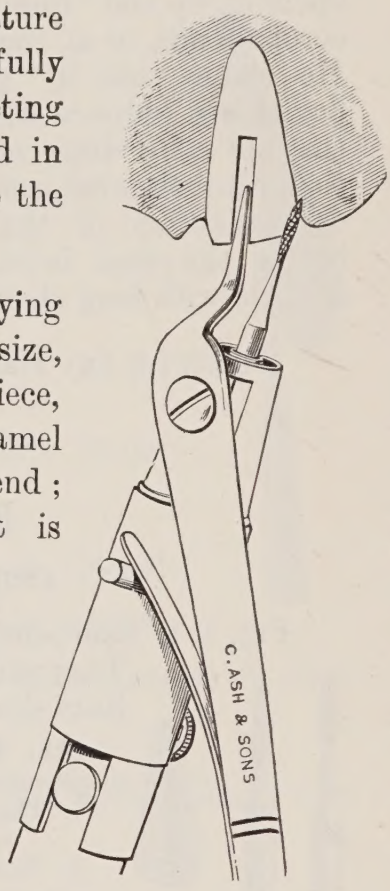
	s.	*d.*
PRICE for any Handpiece, stoned . .	1	3

ROOT-TRIMMING BUR GUIDE

(Mr. FRANK HARRISON'S).



The thoroughly useful and practical nature of Mr. Harrison's Bur Guide was fully demonstrated at the 1896 Annual Meeting of the British Dental Association, held in London, where it was first brought to the general notice of the Profession.

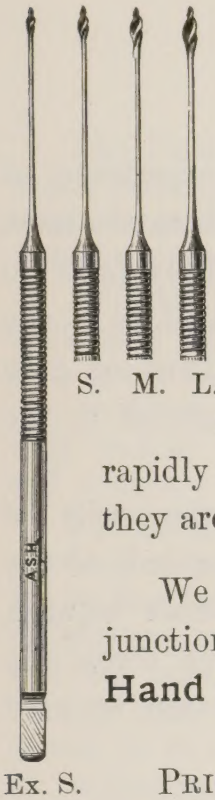


In one of the accompanying illustrations, it is shown full size, slipped on to a No. 7 Handpiece, which has in it a cross-cut enamel bur ground smooth at the end; in the other illustration it is shown with the point at the end of the handle resting in a root-canal, with the bur in the handpiece applied to the root.

The point at the end of the handle is left sufficiently soft to admit of being sprung a little with a pair of pliers in any desired direction; it can also be adjusted as to length by means of the little set-screw ***A***; the Guide is thus applicable to roots of various shapes with canals of different depths.

The handle of the Guide gives the Operator perfect control of the action of the revolving bur, and a root can be easily and quickly trimmed to shape by delicate application and gentle circumduction of the bur.

		s.	*d.*
Bur Guide, Nickel-plated		10	6
Root-Trimming Burs, cross-cut . . .	per doz.	5	0



NERVE-CANAL DRILLS.

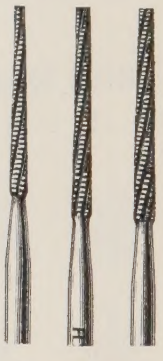
Made with Springs in Stems, for Straight Handpiece, in sizes extra small, small, medium, and large.

These Nerve-Canal Drills have recently been greatly improved, and now give much satisfaction. The cutting edges are carried up to the guide point, which is found to be a decided advantage, as the drills cut much more rapidly and give less pain to the patient. Being carefully tempered, they are tough and not easily broken.

We make a set of three Nerve-Canal Pluggers for use in conjunction with these Drills, illustrations of which are shown in our **Hand Instrument List.**

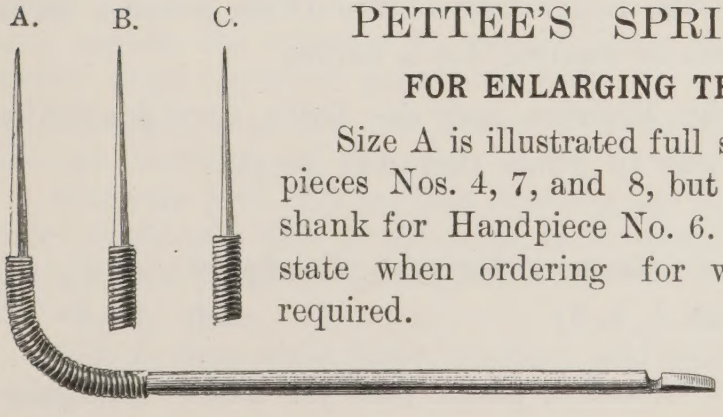
		s.	*d.*
Ex. S.	PRICE for any Handpiece (Ex. S, S, M, and L) . each	1	3

CROSS-CUT ROOT REAMERS.



Made in three useful sizes, much esteemed for the rapidity with which they do their work.

		s.	*d.*
PRICE, any size—small, medium, or large .	each	1	0



PETTEE'S SPRING REAMERS,

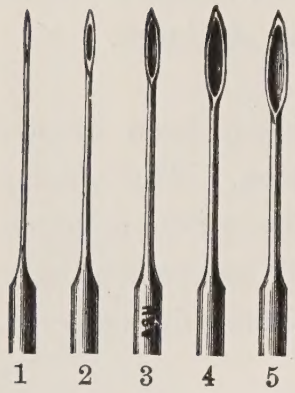
FOR ENLARGING THE NERVE-CANAL.

Size A is illustrated full size, with shank for Handpieces Nos. 4, 7, and 8, but they may also be had with shank for Handpiece No. 6. To avoid mistakes, please state when ordering for which Handpiece they are required.

		s.	*d.*
PRICE for any Handpiece	each	1	9

NERVE-CANAL DRILLS.

(Dr. W. MITCHELL'S.)



1 2 3 4 5

Dr. Mitchell says: "After an experience of twelve years with these Drills, I find them the most satisfactory shape I have yet tried. They have no tendency to draw or screw into the canal, as is the case with those Drills which have a twist or gain upon them, nor are they liable to break off in the canal.

"Their shape is such that they can easily be sharpened on an oil-stone by placing the ball of the index finger upon the head of the drill, and holding the shaft between the thumb and third finger; a backward and forward motion across the stone does the rest. They are easily bent if a lateral motion be used in sharpening them.

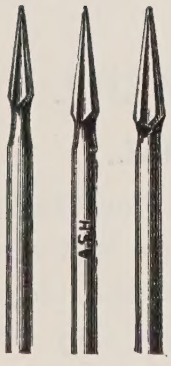
"In using them a reciprocating motion with very slight pressure will ensure rapid cutting with perfect clearing of the *débris*."

		s.	*d.*
Price for any Handpiece (Figs. 1–5)	each	1	0

Other sizes made to order.

NERVE-CANAL REAMERS.

(Dr. W. MITCHELL'S.)



1 2 3

Dr. Mitchell continues: "The Reamers are for following up the larger sizes of the Drills where a good substantial pin is required for a crown.

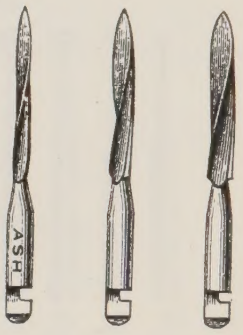
"Both the Reamers and the Drills very practically suggest the uses to which they may be put."

		s.	*d.*
Price of Reamers for any Handpiece (Figs. 1, 2, 3)	each	1	3

In ordering either Drills or Reamers, please state for which Handpiece they are required.

IMPROVED ROOT REAMERS

(Mr. GIRDWOOD'S).



1. 2. 3.

The Root Reamers here illustrated do not call for much description. Their use and advantages over all other forms at present made for Angle Handpieces and Attachments are self-evident.

It is almost impossible with any of the right-angle drills now before the profession to drill a tapered hole in a root-canal in which a Logan or other tapered pin can be fitted with any degree of accuracy; indeed, the only way to do so is to use right-angle Gates' drills and ordinary twist drills.

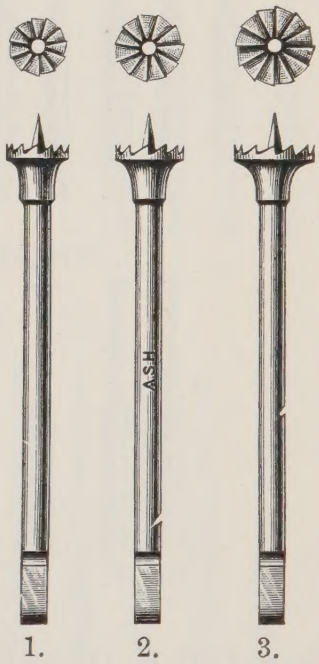
The shape of the blades of Mr. Girdwood's Reamers prevents them being clogged with the *débris* of the tooth substance; they are in fact self-clearing, but the Reamer should, of course, be occasionally withdrawn, and the chips blown out of the root-canal. These Reamers will not readily pass through the apex of the root, as they do not cut on the end, which simply acts as a guide point for the Reamer, and causes it to readily follow the course of the root-canal without danger of perforating the sides—a feature wanting in all other instruments, except the Gates-Glidden drills. The smallest size of Mr. Girdwood's Reamers is also useful for enlarging the palatine, and some buccal, roots of upper molars.

		s.	*d.*
PRICE for any Angle Handpiece or Attachment (Figs. 1, 2, 3)	each	1	9
„ „ Handpiece . . . . . („ 1, 2, 3)	„	1	9

BÜTTNER'S ROOT FACERS,

WITH TROCAR POINTS AND SAFE EDGES

(Suggested by Mr. W. HERN).



1. 2. 3.

The advantage of the Trocar point on these instruments is this: it permits of a hold being obtained on any part of the surface of a root, and thus enables the Operator to use the Facer at any desired angle anywhere around the root.

The safe edge on the Facers is intended to prevent the tearing of the gum.

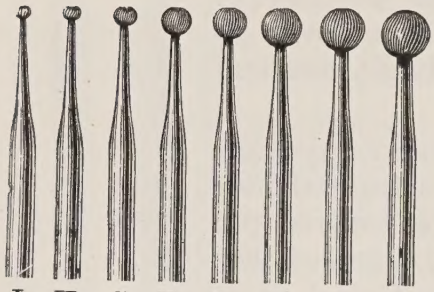
When the root only requires levelling, the Trocar point serves as a rest in the canal, in the same way as the round point on the original form of Büttner's Facer.

Made in three sizes, large, medium, and small.

		s.	*d.*
PRICE, any size, for any Handpiece . . (Figs. 1, 2, 3)	each	2	3

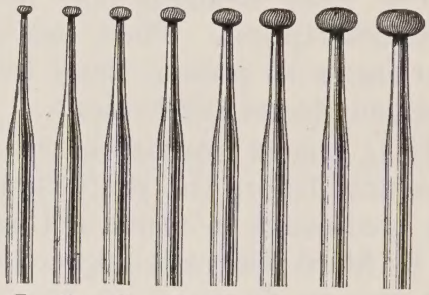
STONED FINISHING BURS.

ROUND.



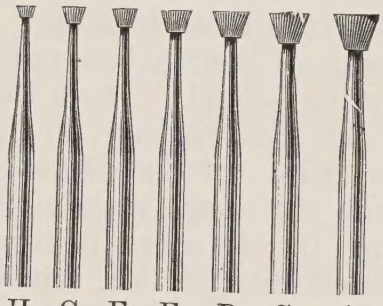
I. H. G. F. D. C. B. A.

OVAL.



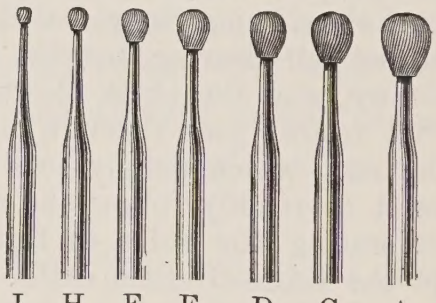
I. H. G. F. E. C. B. A.

INVERTED CONE.



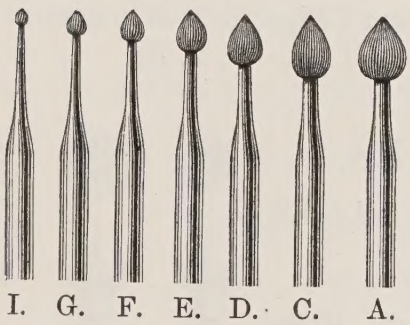
H. G. F. E. D. C. A.

PEAR.



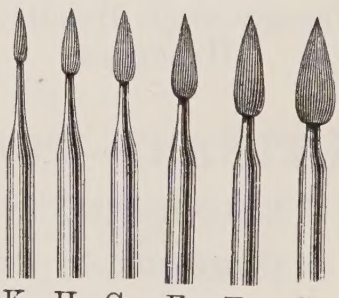
I. H. F. E. D. C. A.

BUD.



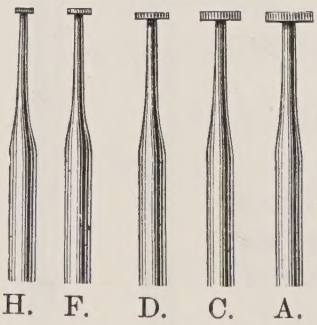
I. G. F. E. D. C. A.

FLAME.



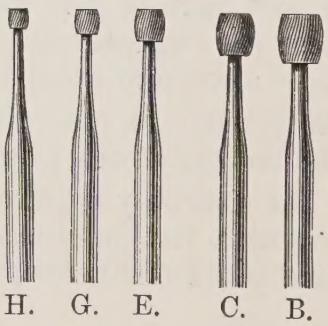
K. H. G. F. E. C.

WHEEL.



H. F. D. C. A.

BARREL.



H. G. E. C. B.

		s.	d.
Sizes A, B, C, D, on Bur Gauge (see page 25)	each	1	9
Other sizes	,,	1	3
Finishing Burs re-stoned	per doz. from 5/0 to	7	6

1.

2. 3.

STONED FINISHING BURS—*continued.*

(Mr. A. H. FAREBROTHER'S.)

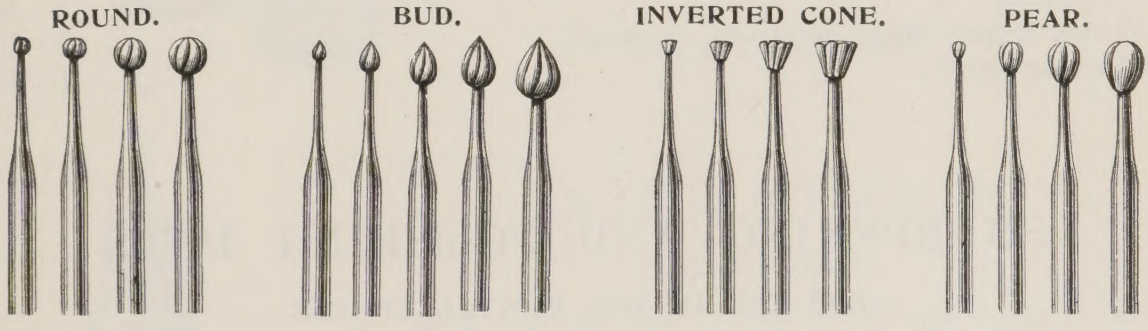
Mr. Farebrother has introduced the Finishing Burs, here illustrated, for cutting away the superfluous gold in the crowns of molars and bicuspids.

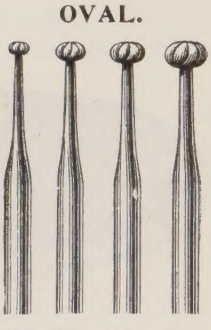
They cut rapidly, and are favourably spoken of by those Operators who use them.

Prices for Nos. 4 and 7 Handpieces or any Attachment:

		s.	d.
Small size	(Fig. 1) each	1	9
Medium „	(„ 2) „	2	0
Large „	(„ 3) „	2	3

BURNISHERS.

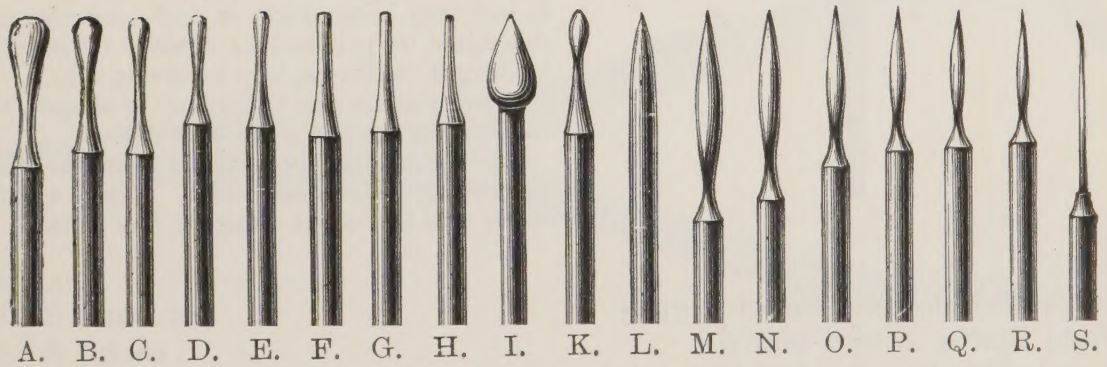




Prices for Nos. 4 and 7 Handpieces or any Attachment:

	s.	d.
With Corrugated Heads, any size . . . . each	1	0
„ Smooth „ . . . . . „	0	10

HERBST'S SMOOTH BURNISHERS.



		s.	d.
Price for any Handpiece or Attachment . . .	(A–S) each	0	10

INSTRUMENTS, VARIOUS.

TREPHINES.

202. **203.**

WHEEL BUR.

204.

CIRCULAR SAW.

226.

Prices for Nos. 4 and 7 Handpieces or any Attachment:

		s.	d.
Trephines	each	1	0
Wheel Burs—large, medium, or small	„	2	6
Circular Saws— „ „	„	1	9

SHARPENING AND POLISHING DISCS

FOR USE IN THE DENTAL ENGINE.

(Suggested by Dr. McLEAN.)

These Discs have met with the approval of nearly every dentist who has seen or tried them. They are made in different grades of Emery Cloth and Paper—varying from coarse to very fine—each disc being two inches in diameter.

Directions for Use:

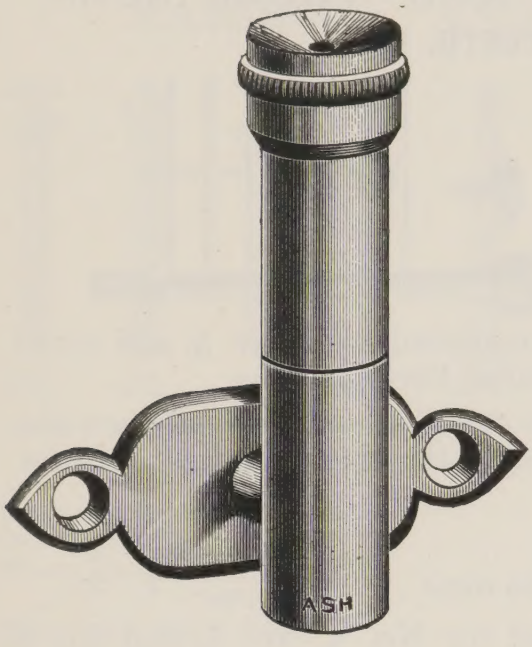
Place a disc on the metal plate, and mount on the ordinary Huey Mandrel, holding the Handpiece firmly in the left hand in a vertical position.

Excavators, Chisels, Drills, Sculptors—in fact, any instrument or tool—can now be sharpened or polished as desired by simply holding it on the rapidly revolving disc.

Instruments can be ground or shaped to suit special cases in a few minutes.

A cloth disc is placed between the sharpening disc and metal plate, which serves as a pad when using for fine work.

		s.	d.
Boxes of 100 Discs, assorted grits	per box	2	0
Metal Plates, Nickel-plated	each	0	4
Huey's Mandrel, for any Handpiece	„	0	9



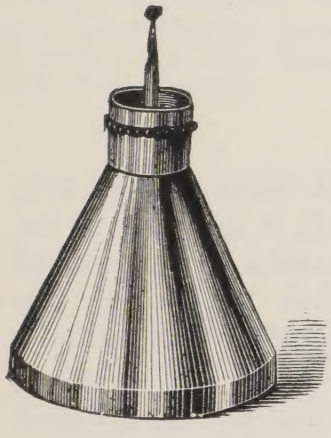
ENGINE BIT OILER

(Mons. VERSCHUEREN'S).

A very handy device for screwing on to the side of the bracket table or in any other convenient place within easy reach of the Operator.

There is a small perforated leather washer in the screw cap which removes the surplus oil from the instrument during its withdrawal from the Oiler.

	s.	*d.*
PRICE, Nickel-plated.	4	6



ENGINE BIT OILER

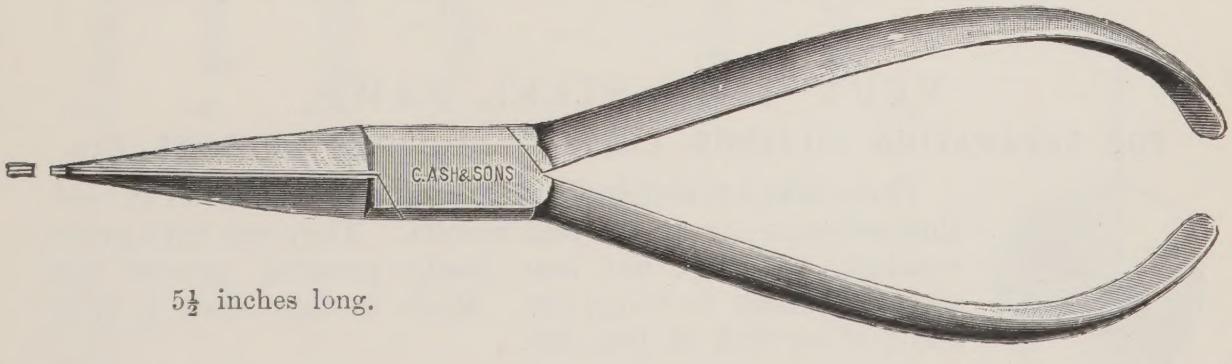
(Dr. HOLMES').

With weighted base to keep it firm and steady in use. The milled top part, which unscrews to admit the oil, is provided with a leather washer that has a small slit in it through which the instrument passes, and when it is withdrawn the washer removes the surplus oil.

	s.	*d.*
PRICE, Nickel-plated	2	0

PLIERS FOR OPERATING ROOM,

WITH FLAT TAPERED BEAKS.



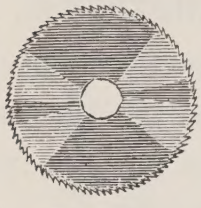
5½ inches long.

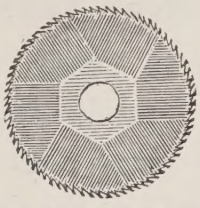
	s.	*d.*
PRICE, in bright steel, highly finished and Nickel-plated	4	3

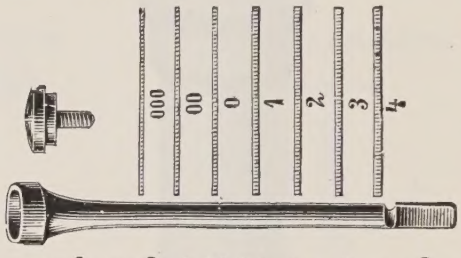
CIRCULAR STEEL SAWS AND WHEEL BURS,

FOR SEPARATING TEETH, Etc.

SAW. WHEEL BUR.







The **Saws** are made in eight sizes, numbered 00000 to 3, and correspond in thickness to the same sizes of Stubs' Dividing Files.

The **Wheel Burs,** which are cut on one side and edge only, are also made in eight sizes, numbered 0000 to 4, of the same thickness as Stubs Dividing Files of the same numbers.

		s.	*d.*
PRICE, unmounted, any size or kind	each	1	0
Screw-head Mandrels for carrying the same . .	„	1	3

The Mandrel, as illustrated, is adapted for No. 4, No. 7, and No. 8 Handpieces ; but it can be had for Handpiece No. 6 at the same price.

CROWN SAW

(Dr. MERIAM'S).

SAW.

It is stated in *Tomes' Dental Surgery*, Third Edition, page 756, that when preparing roots for pivoting, etc., it is not safe to use the excising Forceps until the portion of the tooth to be removed has been already partly cut through, and that neglect of this precaution may result in the root being splintered longitudinally or in the Forceps being broken.

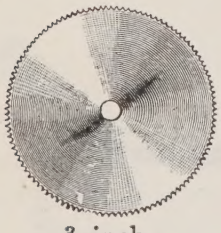
This Saw is well adapted for the purpose ; it cuts rapidly, and is small enough not to touch the adjacent teeth during use. In molars that are much decayed the remaining portions of the crown can be removed from the inside of the cavity.

	s.	*d.*
PRICE for any Handpiece	1	3

When ordering, please state for which it is required.

VERY THIN STEEL SAWS,

FOR SEPARATING FILLINGS, CUTTING SECTIONS OF BONE, Etc.

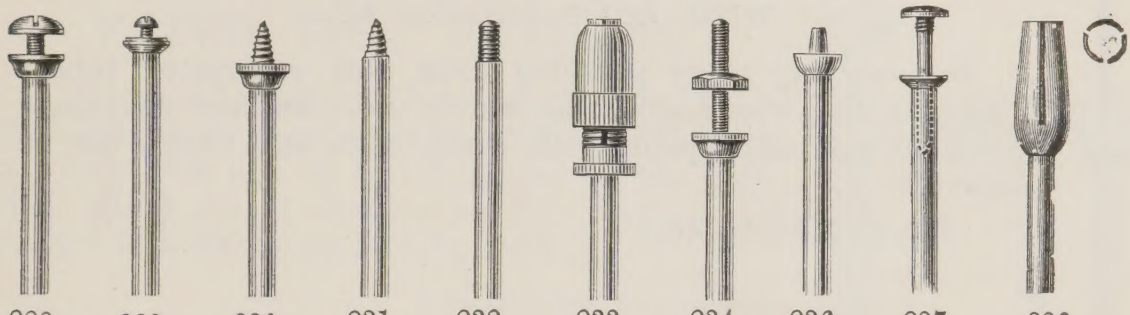


$\frac{3}{4}$ inch.

These saws are so thin that they should be allowed to feed themselves to obtain the best results. They cut with great rapidity, but will not bear heavy pressing against the material which is being cut. Made in four sizes, $\frac{1}{2}$, $\frac{5}{8}$, $\frac{3}{4}$, and $\frac{7}{8}$ of an inch in diameter.

		s.	*d.*
PRICE, any size	each	0	6

MANDRELS AND PORTE-POLISHERS.

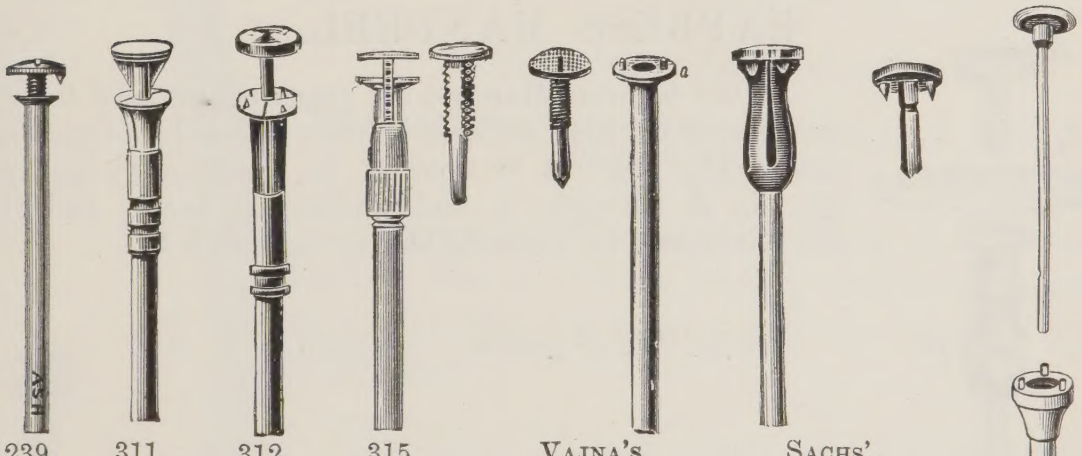


228. 229. 230. 231. 232. 233. 234. 236. 237. 238.

Prices for any Handpiece or Attachment:

			s.	d.
Huey's Mandrel	(Fig. 228)	each	0	9
Disc-Carrier Mandrel	(,, 229)	,,	1	0
Screw Mandrel with Shoulder	(,, 230)	,,	0	9
,, ,, without ,,	(,, 231)	,,	0	4
Stem with Screw end	(,, 232)	,,	0	3
Screw Porte-Polisher.	(,, 233)	,,	1	3
Parting-nut Mandrel	(,, 234)	,,	0	9
Shouldered Mandrel with plain end	(,, 236)	,,	0	9
Elliott's Paper Disc Mandrel	(,, 237)	,,	1	0
Split Porte-Polisher	(,, 238)	,,	0	10

PAPER DISC MANDRELS.



239. 311. 312. 315. VAJNA'S. SACHS'.

MAX-FIELD'S.

Prices for any Handpiece or Attachment:

			s.	d.
Pin-head Mandrel	(Fig. 239)	each	1	3
Paper Disc ,,	(,, 311)	,,	2	0
Smith's Mandrel	(,, 312)	,,	2	0
Register's ,,	(,, 315)	,,	2	0
Vajna's ,,		,,	1	6
Sachs' ,,		,,	2	0
Maxfield's ,,		,,	1	6

228A.

SPECIAL HUEY'S MANDREL,

WITH LONG PIN—FIG. 228 A.

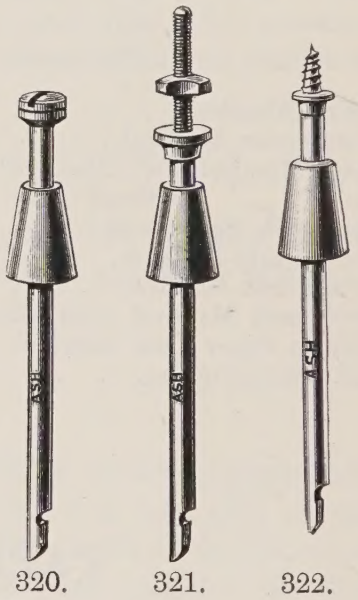
For carrying paper polishing discs, soft corrugated rubber discs, grinding wheels, polishing wheels, etc.; its chief advantage being the ease and rapidity with which discs and wheels can be mounted.

	s.	d.
PRICE, Nickel-plated	0	9

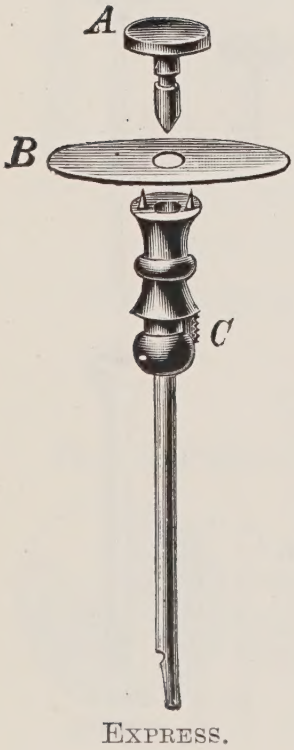
COMMON-SENSE MANDRELS.

The three well-known Mandrels here illustrated—Huey's, Parting-nut and Screw with shoulder—are provided with metal sheath on the stem, to prevent dirt, grit, or moisture finding its way into the handpiece.

	s.	d.
Either form, Nickel-plated (Figs. 320, 321, 322) . . . each	1	0



320. 321. 322.



EXPRESS.

EXPRESS MANDREL.

In the Express Mandrel the paper disc is held firmly, it is exactly centred, and can be removed with the greatest ease. The disc **B** is secured in position by passing the pin **A** through it and pushing it home, and the pin is released by pressing the spring catch **C**.

		s.	d.
PRICE, Nickel-plated .	each	1	9

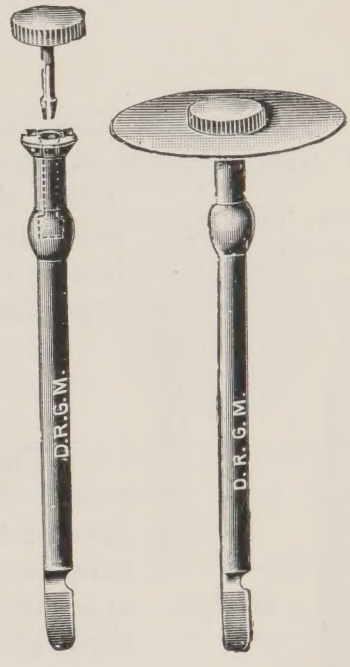
ELSTOB'S MANDREL.

The paper disc in Elstob's Mandrel is very securely gripped by the cogs on the head when the screw with the disc upon it is tightened up.

	s.	d.
PRICE, Nickel-plated . . .	1	6

ELSTOB'S.

THE "VICTOR" PAPER DISC MANDREL.

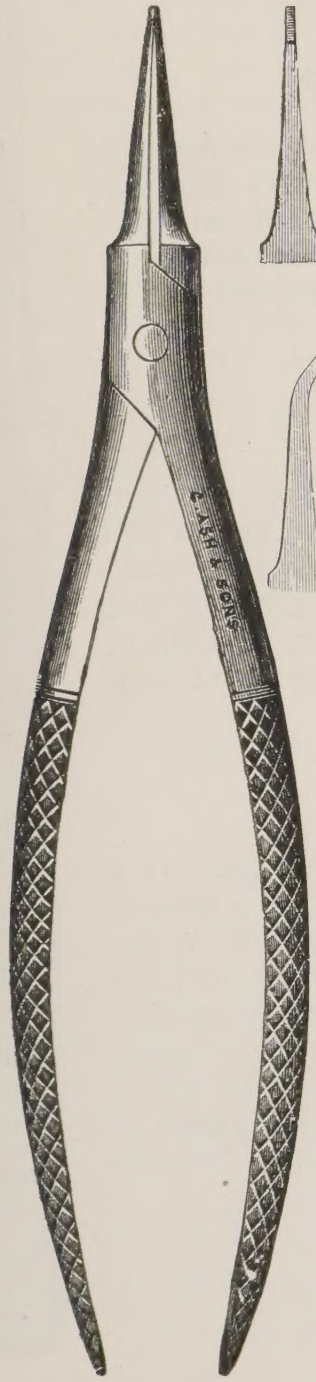


There are two sharp blades on the top of this Mandrel which very easily cut their way through a Paper Disc and fit into a groove in the head. The blades are so constructed that there is no danger of a disc being torn during use.

A disc can be rapidly fixed on the mandrel or removed.

The thickening in the stem near the top is so slight that it does not interfere with the use of the Mandrel, while the head is very little larger than that of the ordinary screw-head mandrel.

	s.	d.
PRICE for any Handpiece	2	0



FULL SIZE.
E

NERVE-CANAL PLIERS,

STRAIGHT AND CURVED,

FOR REMOVING BROKEN DRILLS FROM ROOT-CANALS.

In preparing root-canals for filling it sometimes happens that a drill is broken, and the question then arises how the piece left in the root can best be extracted.

The points of these Pliers are fine enough to enter the root-canal and to grasp the thin stem of the broken point that is lodged within it.

They will also be found useful for other purposes in the Operating Room.

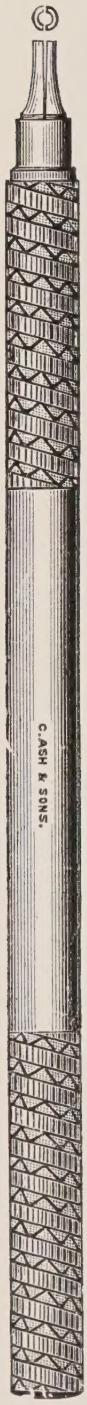
	s.	d.
PRICE of Pliers, Straight or Curved, Nickel-plated . . . . . each	5	6

BROKEN PIVOT EXTRACTOR AND BROKEN DRILL EXTRACTOR.

(Mr. W. HERN'S.)

In bringing these Instruments to the notice of the *Odontological Society of Great Britain* at the ordinary monthly meeting held on December 3, 1894, Mr. Hern said, "that in the case of a pivot breaking off short in a root, a considerable amount of labour was caused, and a good deal of time had to be expended in getting out the pin."

Pivot Extractor.



Full size.

Trephines.

202. 203.

PIVOT EXTRACTOR.

"The instrument now exhibited he considered a useful one. It consisted of two bi-concave tapering jaws or blades, controlled by a screw with an ordinary cone-bearing joint. When the screw was worked it approximated the jaws, and there was a good deal of force at command."

TREPHINES.

Mr. Hern "showed also two small trephines, one just pin size, and the other just over pin size, for use in the dental engine, and suggested their use for trephining around the pin, instead of the small fissure bur commonly employed for this purpose, as being a safer and readier method of loosening the pin and giving a grip to the instrument used for its removal."

DRILL EXTRACTOR.

"He also exhibited a somewhat similar instrument with a small mechanical appliance for removing parts of a flexible drill or dressing broach which might be broken off in the canal. The contracted nature of the situation prevented the use of anything like a crocodile jaw, or any widely-opening instrument. He had, therefore, devised an instrument much on the same lines as the previous one, the jaws of which were controlled by a sliding tube. The instrument could be made either straight or oblique as required."—*Odonto. Transactions.*

		s.	*d.*
Broken Pivot Extractor, Nickel-plated . .		5	6
Trephines. . . .	(Figs. 202, 203) each	1	0
Broken Drill Extractor		5	6

Drill Extractor.

Full size.

ASH'S GROOVED DIAMOND DISCS.

(Registered. Reg. No. 310,731.)

SOFT IRON DISCS CHARGED WITH DIAMOND.

For cutting and contouring inlays, separating natural teeth, finishing fillings, shaping artificial teeth, etc.; do not chip in use like corundum or carborundum discs; leave a nice smooth surface; do not cause any unpleasant sensation to the patient; so invaluable in the dental operating room that no dentist should be without them.

To obtain the best results, both as regards cutting and in contouring, they should be run at high speed and kept well wetted with water by means of Campbell's Sponge Holder attached to the Handpiece. If necessary, they can be pressed to the work in hand, but of course the more lightly they are pressed the longer they will wear.

One of the great advantages attending their use is that they wear to a thin knife edge and retain their cutting efficiency, whereas copper discs that are charged on edge become burred in use and thicken on the edge. Even after these discs become smooth on the edge through use they still cut remarkably well, owing to the diamond in the grooves feeding the edge.

Charged on both Sides and on Edge.

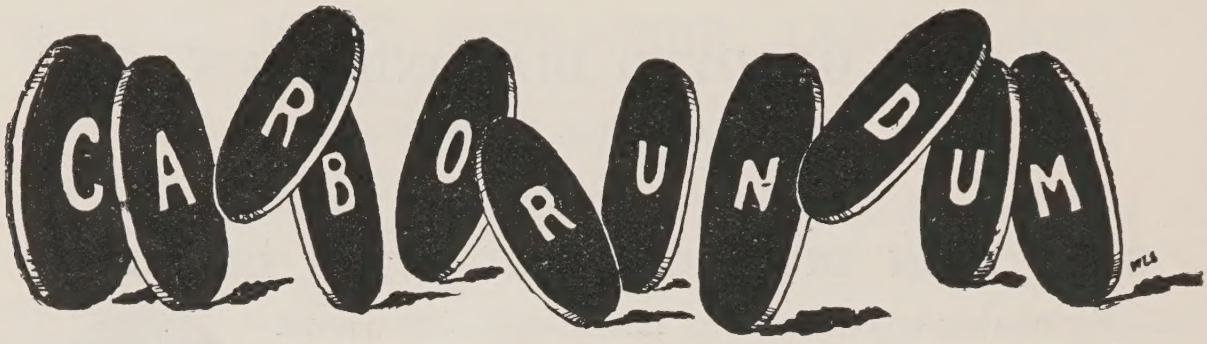
	s.	*d.*
Flat, size $\frac{1}{2}$ inch diameter	4	6
" " $\frac{3}{4}$ " "	6	0
" " $\frac{7}{8}$ " "	7	6
Cup-shape, $\frac{3}{4}$ inch diameter	6	0
" $\frac{7}{8}$ " "	7	6

COPPER DISCS CHARGED WITH DIAMOND.

These are very useful for smoothing and contouring the surfaces of inlays and other fillings on or near the cervical edge or on the labial or buccal surfaces, and for imparting little touches of individuality to mineral teeth and crowns, which many dentists make it their aim to produce, in imitation of the patient's natural teeth.

Charged on both Sides but not on Edge.

	s.	*d.*
Flat, size $\frac{1}{2}$ inch diameter	4	6
" " $\frac{3}{4}$ " "	6	0
" " $\frac{7}{8}$ " "	7	6



So firmly is the reputation of Carborundum now established that the demand for it rapidly increases. Additional experience has enabled the manufacturers to improve the quality, and no pains will be spared to maintain what has been achieved and to attain to even a greater degree of excellence if that be possible.

GUARANTEE.—We warrant all the Carborundum goods we sell, and will exchange or credit any that do not give satisfaction.

CARBORUNDUM DISCS.

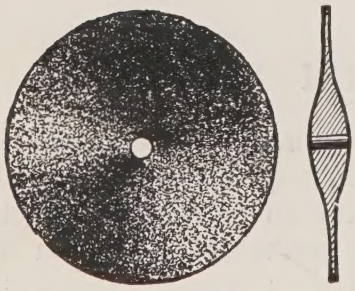
KNIFE EDGE.

1 inch diameter.

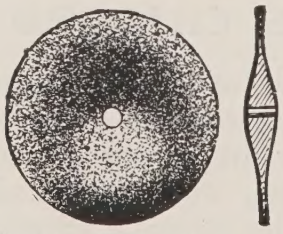
¾ inch diameter.

½ inch diameter.

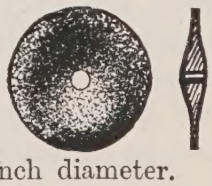
THICK CENTRE AND THIN EDGE.



1 inch diameter.



¾ inch diameter.



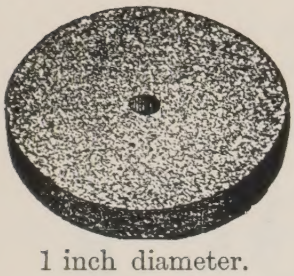
½ inch diameter.

		s.	*d.*
PRICE, any size or shape	each	0	4

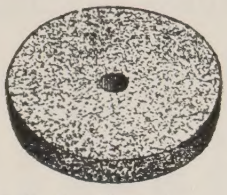
All the Stump Wheels, Discs, and Cups for Engine are stocked in coarse and fine grits, which correspond to our coarse and fine Corundum Discs for Engine.

CARBORUNDUM STUMP WHEELS.

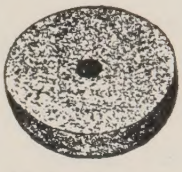
PLAIN, SQUARE EDGE.



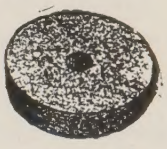
1 inch diameter.



$\frac{3}{4}$ inch diameter.



$\frac{5}{8}$ inch diameter.



$\frac{1}{2}$ inch diam.

Made in two thicknesses, $\frac{1}{8}$ and $\frac{3}{16}$ inch.

		s.	*d.*
PRICE, any size or thickness	each	0	4

STUMP WHEELS WITH ROUND EDGES.

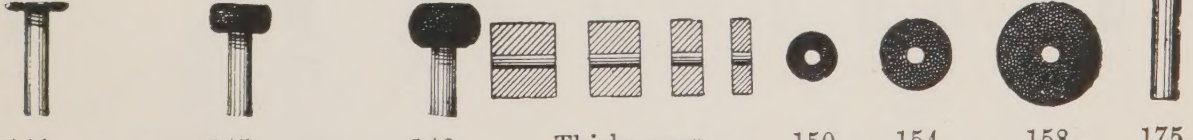
Diameter . . . . $\frac{1}{2}$ inch, $\frac{3}{4}$ inch, and 1 inch.
Each size made in two thicknesses, $\frac{1}{8}$ and $\frac{3}{16}$ inch.

		s.	*d.*
PRICE, any size or thickness	each	0	4

CARBORUNDUM DISCS, POINTS, ETC.

136. 137. 138. 140. 141. 142. 143.

		s.	*d.*
PRICE, any shape, unmounted . (Figs. 136–143)	each	0	4



144. 145. 146. Thicknesses. 150. 154. 158. 175.

Points 150, 154, 158 are made in these four thicknesses: $\frac{1}{16}$, $\frac{1}{8}$, $\frac{3}{16}$, and $\frac{1}{4}$ inch. Butler's Point (Fig. 175), for use in Porte-Polisher, is supplied in boxes of 10 inches, cut up into assorted lengths. Both ends are square, but one can readily be pointed by holding it against a revolving carborundum wheel in the lathe.

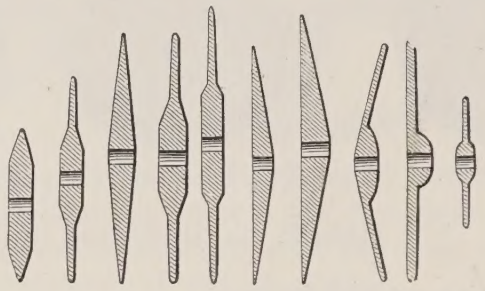
			s.	*d.*
Points, unmounted	(Figs. 144, 145)	each	0	3
„ „	(Fig. 146)	„	0	4
„ „ **Square edge** .	(Figs. 150, 154, 158)	„	0	3
„ for Porte-Polisher, Dr. Butler's .	Fig. 175)	per box	2	1

CORUNDUM DISCS AND POINTS.

DISCS

(Dr. ARTHUR'S PATTERNS).

These Corundum Discs are greatly appreciated for their splendid cutting properties. They are made extremely thin, and are suitable for the most delicate separations.

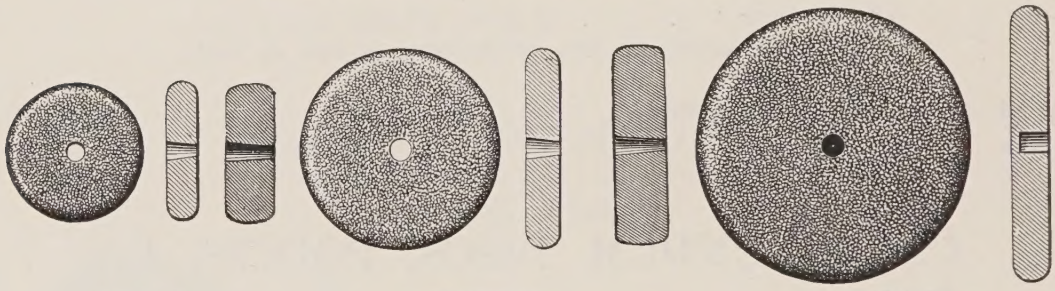


A. B. C. D. F. G. H. I. N. K.

DR. BUTLER'S.

POINT.

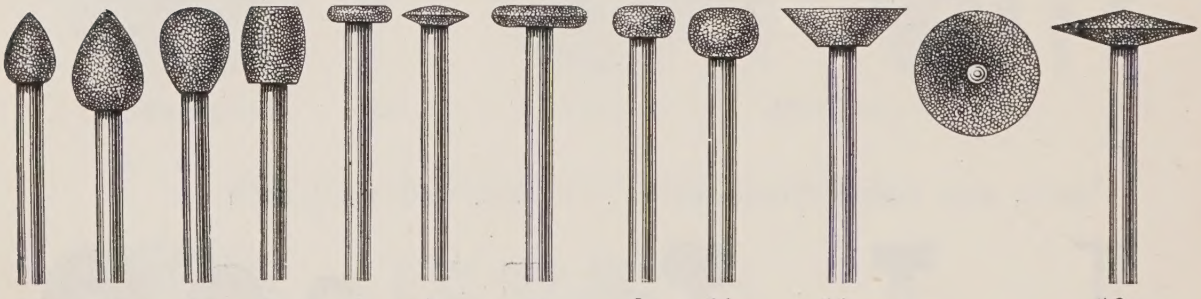
WHEELS FOR STUMPS.



SMALL. MEDIUM. LARGE.

POINTS

(Dr. NORTHROP'S PATTERNS).



1. 2. 3. 5. 6. 7. 8. 9. 10. 11. 12.

			s	*d.*
Discs (Dr. Arthur's).	Size A	unmounted, per doz.	1	8
„ „	All other sizes	„ „	3	0
Wheels for stumps, small, medium, and large		„ „	3	0
Points (Dr. Northrop's), Figs. 1-12		„ „	1	8
„ (Dr. Butler's), for Porte-Polisher		„ „	1	8

Corundum Discs, Wheels and Points, as above, mounted, extra per doz. **4s.**

SUPPLIED IN TWO GRITS, KNOWN AS FINE AND COARSE.

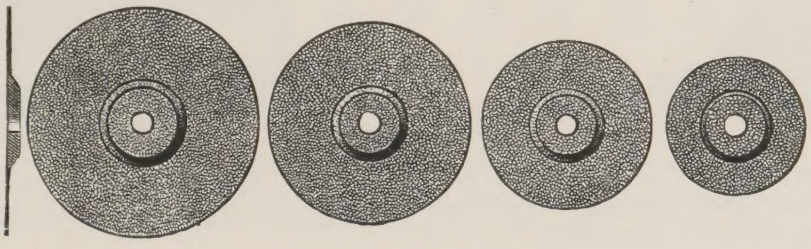
When ordering mounted Corundum Discs and Points, please state for which Handpiece they are required.

ASH'S RUBBER-CARBO SEPARATING DISCS AND STUMP WHEELS.

The mixture of India-Rubber and Carborundum, of which these Discs and Stump Wheels are composed, offers a threefold advantage, viz. :—

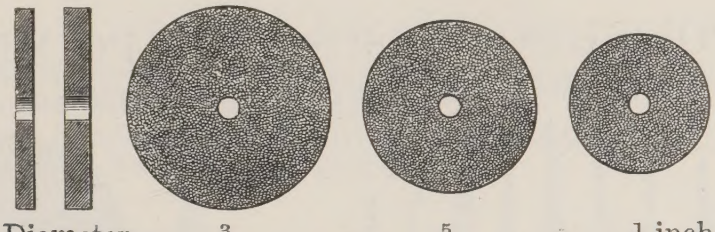
1. **Toughness with edge strength.**
2. **Great cutting and abrasive power.**
3. **It does not gum up in use.**

The **Discs** are very thin, cut rapidly, and do not easily break. Made in four sizes as under :



Diameter— $\frac{7}{8}$ $\frac{3}{4}$ $\frac{5}{8}$ $\frac{1}{2}$ inch.

The **Stump Wheels** are made in the three sizes here shown in thin and thick :



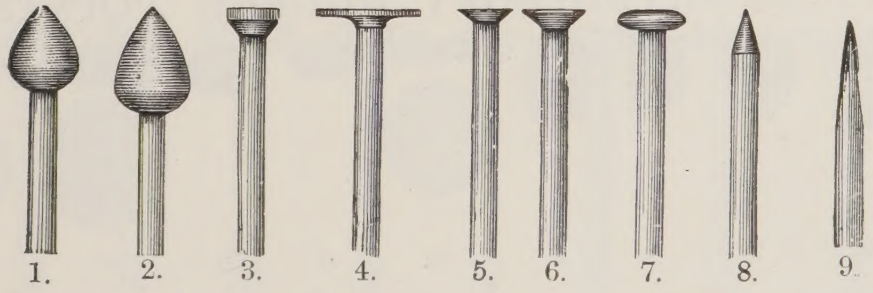
Diameter— $\frac{3}{4}$ $\frac{5}{8}$ $\frac{1}{2}$ inch.

In ordering, be careful to state whether thin or thick wheels are wanted.

		s.	*d.*		*s.*	*d.*
Discs, any size	each	0	3	per doz.	2	6
Stump Wheels, any size, thin or thick	„	0	3	„	2	6

WOOD POLISHING POINTS.

(Dr. SOUTHWOOD'S.)



1. 2. 3. 4. 5. 6. 7. 8. 9.

Porte-Polishers 233 and 238, on page 47, will carry these.

	s.	*d.*
Wood Polishing Points, assorted . . (Figs. 1-9) per box of 100	2	6

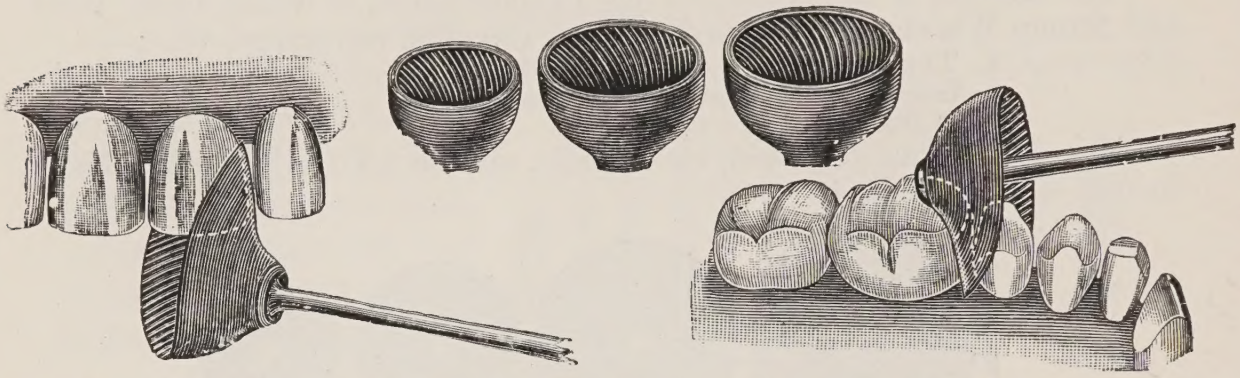
Separately—

Nos.	1.	2.	3.	4.	5.	6.	7.	8.	9.
Per 100 .	3/2	3/2	2/1	2/1	2/1	2/1	3/2	2/1	2/1

INDIA-RUBBER POLISHING CUPS—CORRUGATED INSIDE.

(Dr. W. VAJNA'S.)

1. 2. 3.



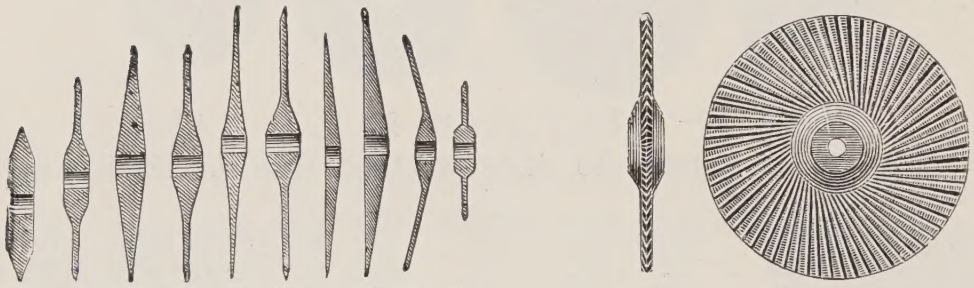
For cleansing and polishing the natural teeth. The corrugations serve as a useful medium for carrying the polishing powder, while the cups themselves readily conform to all the surfaces of the teeth.

MADE IN THREE SIZES:—No. 1—Small. No. 2—Medium. No. 3—Large.

		s.	*d.*
PRICE	per doz.	2	6

POLISHING DISCS AND POINTS.

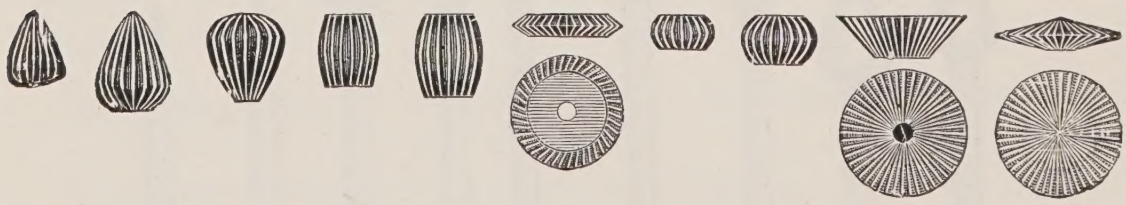
CORRUGATED SOFT RUBBER DISCS.



A. B. C. D. E. F. G. H. I. K.

		s.	*d.*
PRICE, all sizes	per doz.	2	6
,, ,, ...	each	0	3

CORRUGATED SOFT RUBBER POINTS.



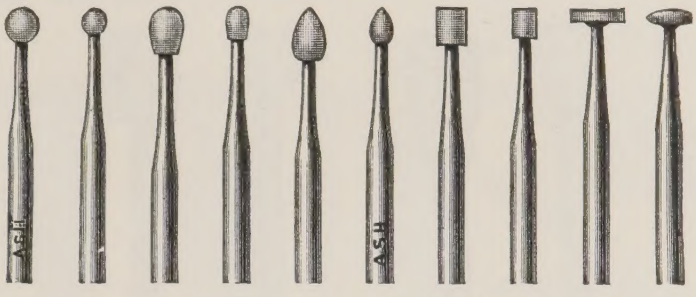
1. 2. 3. 4. 5. 8. 9. 10. 11. 12.

		s.	*d.*
PRICE, all sizes	per doz.	1	9
,, ,, ...	each	0	2

These Discs and Points of Soft Rubber, with **corrugated** surfaces, suggested by Dr. C. E. Francis, are pronounced much superior to those with plain surfaces. They are used for carrying powders, either for polishing the natural teeth or for finishing fillings. They are generally used with Huey's Screw-head Mandrel shown on page 47.

ARKANSAS STONES.

(Suggested by Dr. Jenkins, of Dresden.)



1 2 3 4 5 6 7 8 9 10

Invaluable in **Inlay Work** for smoothing the edges of cavities, etc.; also most useful for polishing gold fillings.

As will be seen from the illustrations, which show the stones full size, they are small and mounted on slender stems, hence they require to be used with care. They are made in large and small sizes of five most useful shapes.

		s.	*d.*
Price	(Figs. 1–10) each	1	9
„	per set of 10	17	6

ASH'S TAN-STONE.

There is no stone before the Profession that is equal to our Tan-Stone for the purposes for which it is intended.

After being cut to shape each point or wheel is fired; this renders it tough and conserves its abrasive power.

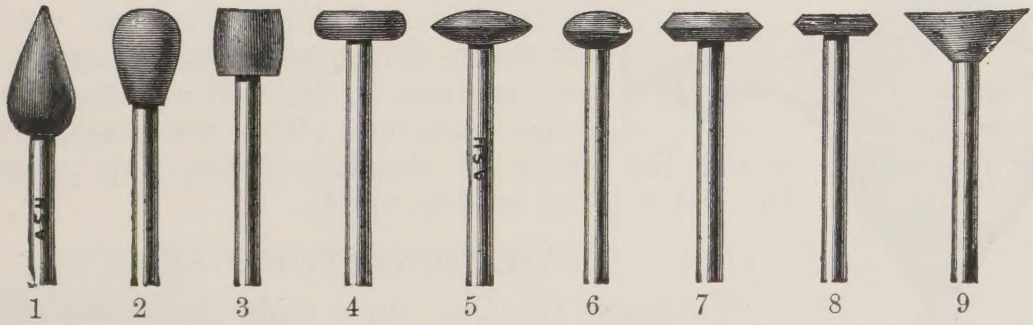
TAN-STONE CAVITY POINTS.

MADE IN THE SAME SIZES AND SHAPES AS THE ARKANSAS STONES SHOWN ABOVE.

For smoothing cavity margins, dressing down the edges of inlays, and for the same uses as the larger points shown below.

		s.	*d.*
Price, any size or shape.	each	0	10

TAN-STONE POLISHING STONES.



1 2 3 4 5 6 7 8 9

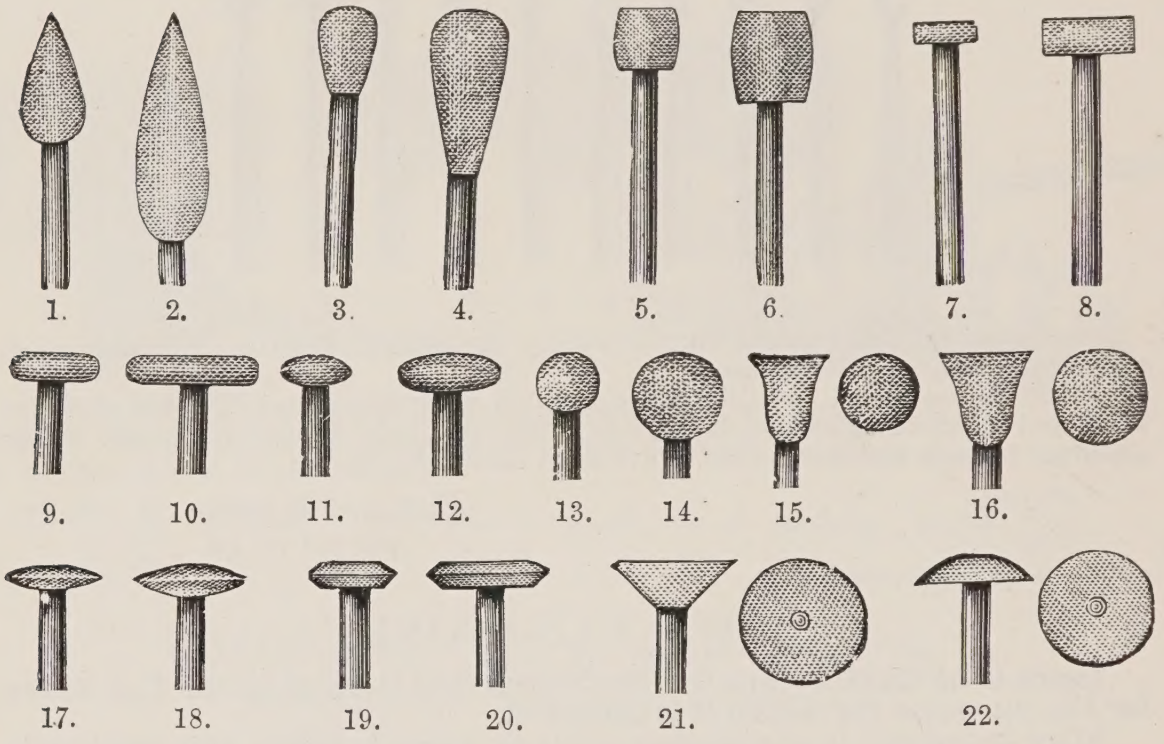
For trimming and smoothing gold and amalgam fillings, to which they impart a fine surface.

		s.	*d.*
Price, for any Handpiece	(Figs. 1–9) each	1	0

In ordering, state for which Handpiece they are wanted.

POLISHING STONES.

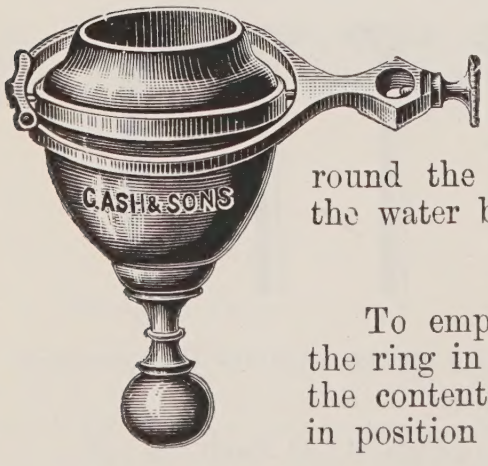
ARKANSAS, HINDOSTAN, AND WATER OF AYR.



PRICES of above for any Handpiece:				s.	d.
American Arkansas Stones, mounted . . .	(Figs. 1–22)	each		4	0
Ash's „ „ „ . . .	(„ „)	„		2	6
Hindostan „ „ . . .	(„ „)	„		1	3
Water of Ayr (Scotch) „ „ . . .	(„ „)	„		0	9
„ „ „ unmounted . .	(„ „)	„		0	4

WATER CUP,

FOR FIXING ON THE UPRIGHT STANDARD OF THE DENTAL ENGINE.



It holds sufficient water for wetting Corundum Discs, etc., during an operation, and can be emptied and re-filled in a few moments. The overhanging rim round the inside of the top of the Cup prevents the water being readily upset.

DIRECTIONS FOR USE:

To empty the Cup, draw aside the spring ***A*** on the ring in which it is fixed, lift it out and discharge the contents. Before re-filling it, replace and fasten in position by pushing back the spring.

	s.	d.
PRICE, Nickel-plated	5	0

AUTOMATIC PAPER DISC HOLDERS.

(Mr. LOEWENSON'S.)

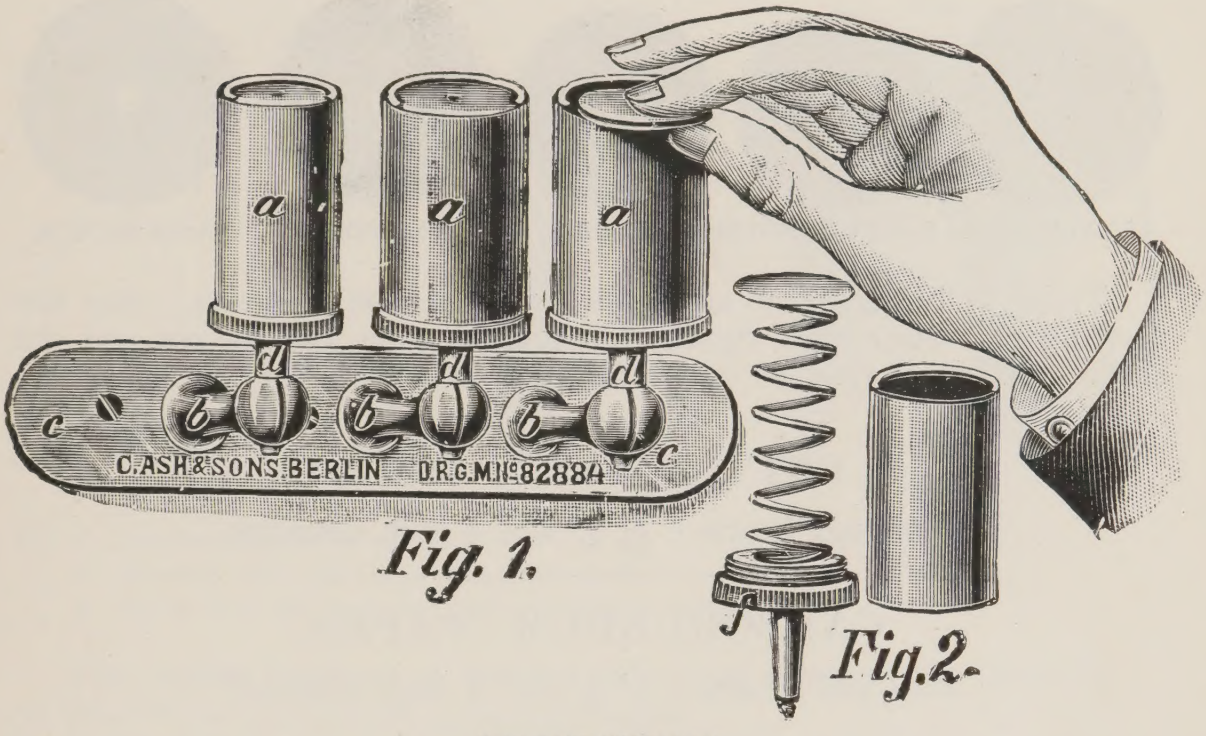


Fig. 1.

Fig. 2.

DESCRIPTION.

Fig. 1.—***a a a***, Holders for discs, $\frac{7}{8}$ in., $\frac{3}{4}$ in., and $\frac{5}{8}$ in. diameter.
b b b, Brackets with split openings, and
c c, Plate to which they are riveted.
d d d, Stems which fit into the Brackets ***b b b***.
Fig. 2 shows the details of a Holder.

DIRECTIONS FOR USE:

To fill a Holder, unscrew the plate ***f*** (Fig. 2), put the discs in the metal tube, insert the pressure plate, and compress the spring sufficiently to admit of plate ***f*** being screwed home.

The advantage possessed by the Holders is this: only one disc at a time can be removed with the finger. The Plate can be screwed on the side of a Bracket Table.

PRICES:

		s.	*d.*
Holders of different sizes, as illustrated, or all of the same size, complete with Plate and Brackets		7	6
Holders separately, any size—large, medium, or small . .	each	2	0
Plate with Brackets separately		2	0

$\frac{7}{8}$ inch.

POPIEL'S CORRUGATED DISC BURNISHERS.

Made of thin flexible steel in sizes $\frac{5}{8}$, $\frac{3}{4}$ and $\frac{7}{8}$ of an inch; excellent for polishing amalgam fillings.

		s.	*d.*
Price, any size	each	1	2

ASH'S PAPER POLISHING DISCS.

CUTTLE-FISH. CARBORUNDUM. EMERY. GARNET. SAND-PAPER.

These Polishing Discs are made from the best materials; they are carefully cut, retain their rigidity for a considerable time in use, and the shellac with which they are coated does not crack when they are bent.

CUTTLE-FISH PAPER.

Fine and Coarse; $\frac{7}{8}$, $\frac{3}{4}$, and $\frac{5}{8}$ inch diameter.

CARBORUNDUM PAPER.

Fine and Coarse; $\frac{7}{8}$, $\frac{3}{4}$, and $\frac{5}{8}$ inch diameter.

EMERY PAPER.

Fine and Coarse; $\frac{7}{8}$, $\frac{3}{4}$, and $\frac{5}{8}$ inch diameter.

GARNET PAPER.

Fine and Coarse; $\frac{7}{8}$, $\frac{3}{4}$, and $\frac{5}{8}$ inch diameter.

SAND PAPER.

Fine and Coarse; $\frac{7}{8}$, $\frac{3}{4}$, and $\frac{5}{8}$ inch diameter.

	s.	*d.*
Any kind, grit, or size, in boxes of 100 . . . . . per box	0	4
" " " " " . . per doz. boxes	3	6

1,000 ASSORTED PAPER DISCS,

IN BOX, CONSISTING OF

EMERY, SAND, CUTTLE-FISH, GARNET, AND CARBORUNDUM.

	s.	*d.*
Sizes, $\frac{7}{8}$, $\frac{3}{4}$, and $\frac{5}{8}$. Coarse and Fine . . . . . per box	3	6

MOORE'S DISCS AND MANDREL.

FIG. 2.

FIG. 3.

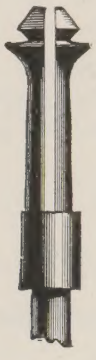


FIG. 4.

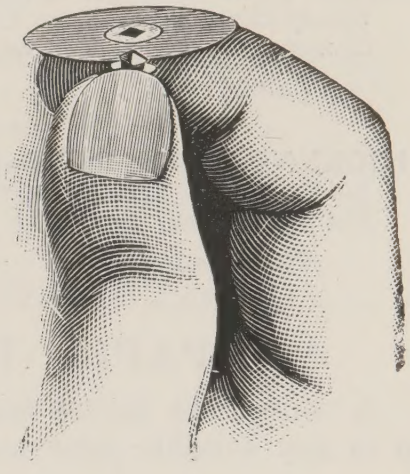


Fig. 2. Disc showing metal centre.
,, 3. Mandrel with split square head and neck.
,, 4. Shows how the Mandrel is held to remove a disc.

The special features in Moore's Discs and Mandrel are these:—

(*a*) The Discs are provided with square metal centre.
(*b*) The Mandrel is made with a square tapering head, corresponding in size to the metal centre in the discs.

TO MOUNT A DISC.—After the Mandrel is secured in the Handpiece, force the split square head into the centre of the Disc.

TO REMOVE A DISC.—Grip the neck of the Mandrel as shown in Fig. 4, squeeze it and force off the Disc while doing so.

The Advantages of the Invention are these:—

The Discs cannot be torn in the centre;

They are held quite securely by the Mandrel whichever way the engine is run;

The Mandrel is always ready for use, there being no screw about it to be manipulated or lost; and

The valuable time of the Operator is economised.

The metal centres considerably increase the cost of the Discs, but they also greatly add to their durability, and thus make them almost, if not quite, as cheap in the long run as the Discs without metal centres, which are sold at a much lower rate.

Put up in boxes of 50 and supplied in the following kinds and sizes:—

Kinds—Emery-Paper, Sand-Paper, Cuttle-Fish Paper, and Garnet.
Sizes—$\frac{5}{8}$, $\frac{3}{4}$, and $\frac{7}{8}$ of an inch in diameter.

		s.	*d.*
Discs, any kind or size	per box of 50	0	5
,, ,, ,,	per dozen boxes	4	2
Mandrels for any Handpiece	each	2	6

DISCS, VARIOUS, FOR POLISHING, ETC.

(American).

PAPER AND CLOTH DISCS. In boxes containing 525 Discs, namely: 150 each Emery-Paper, Sand-Paper, Cuttle-Fish Paper, and 75 Emery-Cloth Discs. Assorted diameters, $\frac{5}{8}$, $\frac{3}{4}$, and $\frac{7}{8}$ of an inch.

		s.	*d.*
PRICE	per box	2	1

THICKENED-RIM SAND-PAPER DISCS. These can be mounted on any of the Paper Disc Mandrels. Supplied in two sizes, $\frac{5}{8}$ and $\frac{7}{8}$ of an inch in diameter. Put up in boxes containing 400 Discs, assorted grits.

		s.	*d.*
PRICE, either size	per box	4	0

PAPER DISC EASEL—(American).

A convenient device for standing on the Bracket Table or hanging up in any suitable place near at hand.

	s.	*d.*
Complete with 525 Discs—448 Paper and 77 Cloth .	4	2

DISC TRAY—(American).

This Tray is sold with 1,400 Paper Discs, all varieties, well assorted, easy of access; each kind and size in a separate compartment.

	s.	*d.*
PRICE	6	3

DARBY'S HARD BUFF POLISHERS,

KNOWN ALSO AS

MOOSE-HIDE POINTS AND LEATHER POLISHING WHEELS.

These Polishers are made of a material which possesses peculiar qualities for carrying pumice and other powders, and "taking hold" of discoloured enamel. They will not abrade the gums, and can be run with perfect safety round the necks of teeth. When wet the surface becomes pliable, and adjusts itself to all inequalities. The simplest and quickest carrier for them is the shouldered screw mandrel. A fresh Polisher should be used for each case.

Put up in boxes containing 100 assorted sizes, with directions for use.

		s.	*d.*
PRICE	per box	1	8

PURE SHELLAC,

FOR MOUNTING CORUNDUM DISCS AND POINTS.

		s.	*d.*
In Powder	per box	0	6
In Sticks, with directions for use	per doz.	2	6

These Sticks are very useful for repairing broken articles, etc., if employed according to the directions for use.

WIRE BRUSH WITH HUB

FOR SHAW'S ENGINE AND ASH'S CABLE ENGINE,

FOR CLEANING BURS.

The Hub on which this Brush is mounted fits on the projecting end of mandrel outside the pulley on either Engine arm. The Bur should be cleansed *before* being put in the Handpiece, otherwise the acute bend to which the springs are subjected is liable to break them. A few light touches will be found sufficient to remove all *débris* without damaging the Bur.

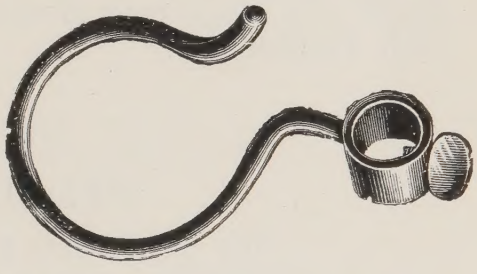
In ordering, state for which Engine the Brush is required.

	s.	*d.*
Brush and Hub complete	3	0
Separately { Brush	2	0
Separately { Hub	1	0
Wire Brush, with metal Hub, for mounting on the end of mandrel outside the pulley on White's Engine, complete	3	0
Separately { Brush	2	0
Separately { Hub	1	0

HANDPIECE SPIRAL,

FOR UPRIGHT OF SHAW'S ENGINE.

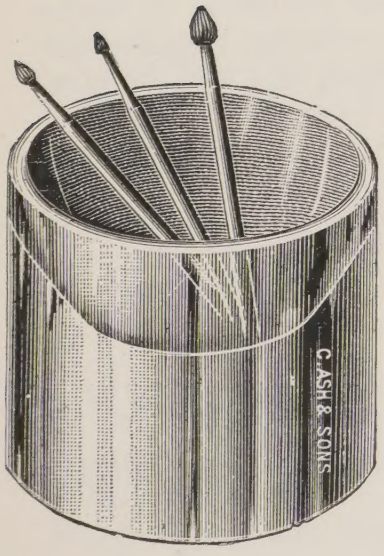
(Suggested by Mr. J. O. BUTCHER, of London.)



	s.	*d.*
PRICE	2	6

BUR CUP.

(Suggested by Mr. MOON.)



This Cup is designed to hold the burs required for each operation. Mr. Moon finds it useful and very convenient. He says that the burs can be seen at a glance in the Cup, and that, being ready to the hand of the Operator, much time is saved in changing one for another in the Handpiece.

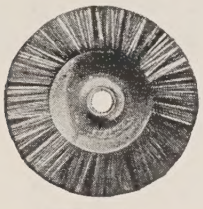
It is made in Glass, as here illustrated The Glass Cup forms a useful Mortar for amalgams ; the base is very thick and can be gripped and held firmly in the hand.

	s.	*d.*
PRICE	0	9

ROBINSON'S BRISTLE DISCS

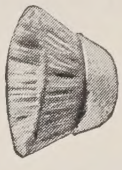
WITH METAL CENTRES, FOR CLEANING AND POLISHING TEETH.

Dr. Robinson claims that these Bristle Discs or Brushes will reach and polish that stronghold of tartar, the lingual surface of the lower incisors.

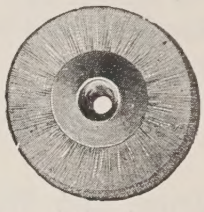


No. 11.

No. 9.



Cup-shape.



Soft Polishing.

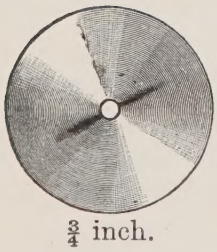
Made in four styles, as shown in the illustrations, all of the finest French bristles with polished nickel hubs. They can be sterilised in hot water without injury.

		s.	*d.*
No. 11, Standard Stiffness, or extra Stiff . .	per doz.	4	0
No. 9, „ „ „ . .	„	4	0
Cup Shape, „ „ „ . .	„	4	0
Small Cup Shape (not illustrated), extra Stiff .	„	4	0
Soft Polishing	„	4	0

STEEL SHIELDS,

FOR USE WITH PAPER POLISHING DISCS.

(Suggested by Mr. W. H. DOLAMORE, of London.)



$\frac{3}{4}$ inch.

They are made quite flat, from exceedingly thin steel, are almost as flexible as paper, and will not break or buckle up when subjected to pressure. In polishing rounded surfaces they lend great support to the disc, and will therefore be found very useful.

Made in two sizes, $\frac{7}{8}$ and $\frac{3}{4}$ of an inch in diameter, and supplied in boxes of half a dozen, as under :—

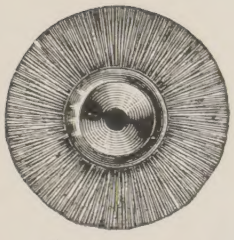
		s.	*d.*
Price, either size or assorted . . .	per box	1	0

BRIGHT METAL SHIELDS FOR PAPER DISCS.

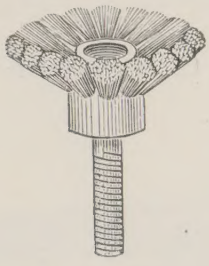
Made in two sizes, viz. : No. 1, $\frac{7}{8}$ inch diameter ; No. 2, $\frac{3}{4}$ inch diameter.

		s.	*d.*
Price, either size	per doz.	2	6

POLISHING BRUSHES, Etc.

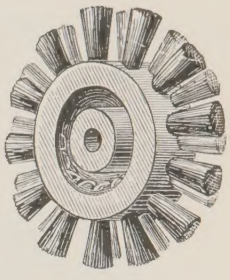


Straight.



Cup-shape.

Straight.



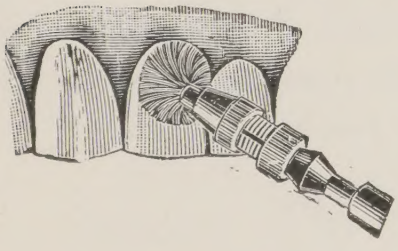
Steel Wire.

The Cup-shape and Straight are for polishing teeth, the Steel-wire Brush is for cleaning burs.

The Straight Brush without stem and the Steel-wire Brush are mounted on the Parting-nut Mandrel, and the Cup-shape and Straight, with bone centres, as illustrated, are used with the Screw-porte Polisher —see page 47.

		s.	*d.*
Straight Polishing Brushes, metal centres . . .	each	0	9
„ „ „ bone „	„	0	4
Cup-shape Polishing Brushes, bone centres, with Stem,	each	0	6
Straight „ „ „ „ „	„	0	6
Steel-wire Brushes for cleaning Burs	„	1	3

TOOTH POLISHING BRUSH.



Brush.

Porte-Polisher.

The Metal Stem in which the bristles of the brush are fixed is made to fit the Screw-Clamp Porte-Polisher here illustrated.

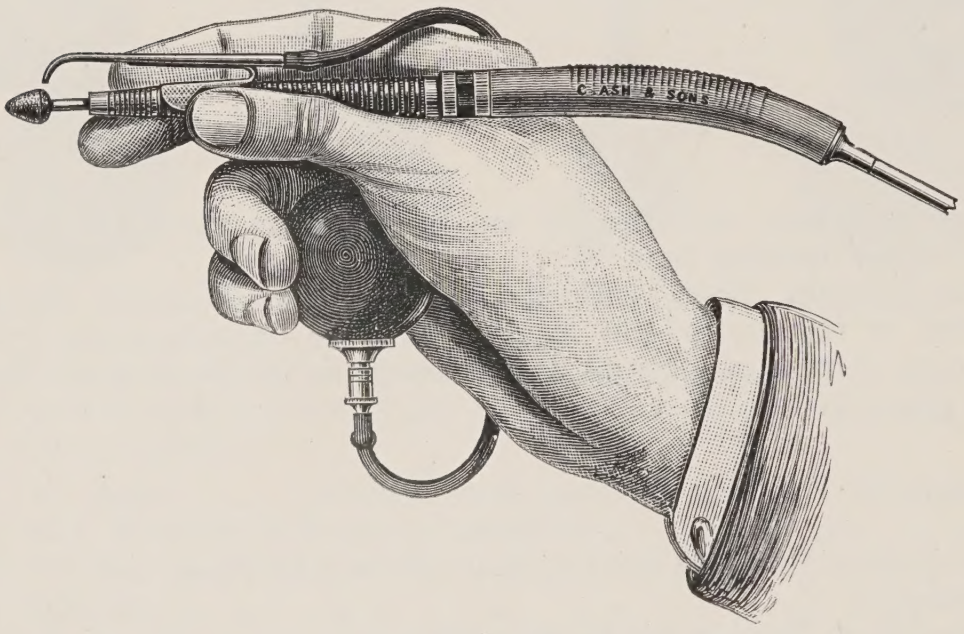
		s.	*d.*
Price, with stiff, medium, or soft bristles . .	per doz.	1	0
Screw-Clamp Porte-Polisher for any Handpiece .	each	1	3

POLISHING POWDERS.

		s.	*d.*
Carborundum Powder, Superfine and Extra Superfine .	per box	0	6
Corundum Flour	„	0	6
Pumice, Superfine	per lb.	0	4
Rouge	per box	0	6

IMPROVED ENGINE SYRINGE.

(Introduced by Dr. C. H. STOKES.)



This Syringe is intended for wetting the Corundum Discs and Points which are used in the Handpiece of the Dental Engine. The half-ounce bulb with which it is supplied has a slip-off mount so that it can be quickly refilled when the water is exhausted. To admit of the nozzle being adapted for large or small discs and points the metal to which it is attached is soft and easily bent to the required position.

DIRECTIONS FOR USE:

Slip the metal clip to which the nozzle is joined on the case of the Handpiece, as far as is necessary, then pass the India-rubber tubing over the back of the hand to keep it from kinking, and place the bulb between the palm and two last fingers, as shown in the engraving.

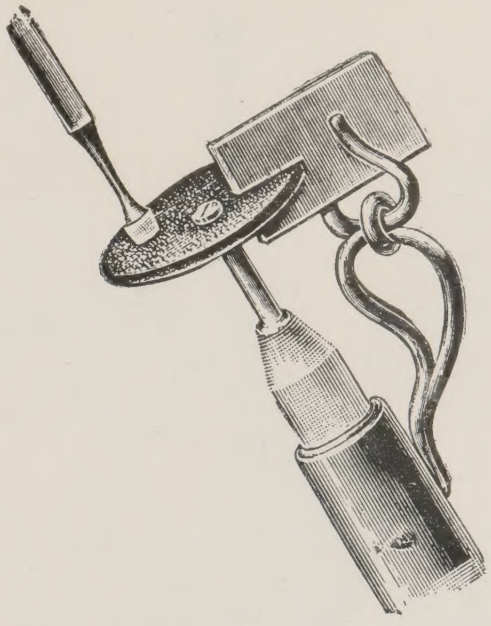
To make the clip smaller press the sides a little closer to each other.

A duplicate of the above, employed as an Air Syringe, will be found useful for blowing cuttings and dust out of the cavity while the Bur is actually at work.

	s.	*d.*
Engine Syringe to fit any Handpiece, in card box .	5	6

GUTTMANN'S FELT PAD HOLDER.

A useful device for moistening Diamond Discs, Carborundum and Corundum Wheels and Discs, etc.



Holder with Pad, mounted on Handpiece.

The illustration shows the Holder with Pad, mounted on Handpiece, as used by Mr. Guttmann in Inlay Work.

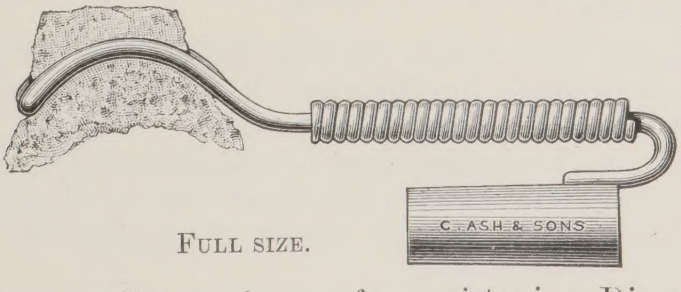
He thus refers to it :

"If we are dealing with a small Inlay, which it would be impossible to hold between the thumb and finger, we shellac the Inlay on a carrier or disused wheel bur and apply it to the Diamond Disc, which is kept well moistened by the Felt Pad through which the Disc passes."

		s.	*d.*
Felt Pad Holder for any Handpiece	each	2	0
Felt Pads	per box	1	0

SPONGE HOLDER FOR ENGINE.

(Designed by Mr. WALTER CAMPBELL, of Dundee.)



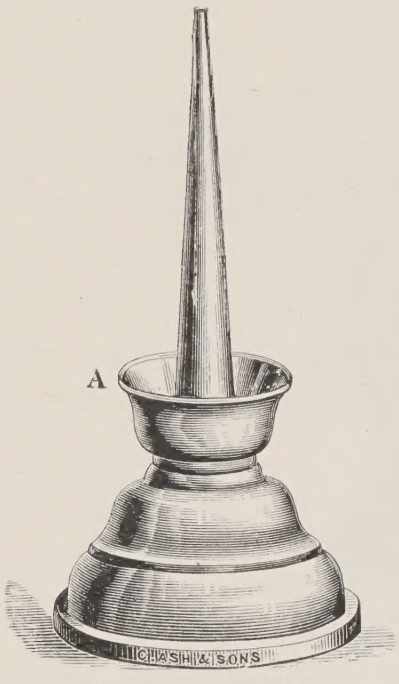
FULL SIZE.

Of the various appliances in use for moistening Discs and Points in the Dental Engine, few, if any, are simpler or more useful than the one here shown. It fits on to the Handpiece, and is provided with a spring which can be readily depressed sufficiently to bring the sponge in the frame in contact with any Disc or Point that may be in use at the moment.

	s.	*d.*
PRICE for any Handpiece.	3	6

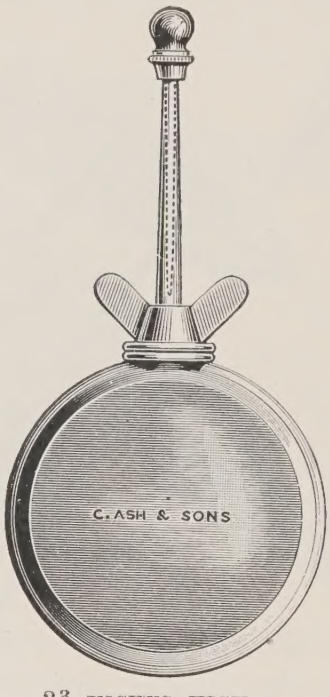
OIL CANS.

FIG. 1.



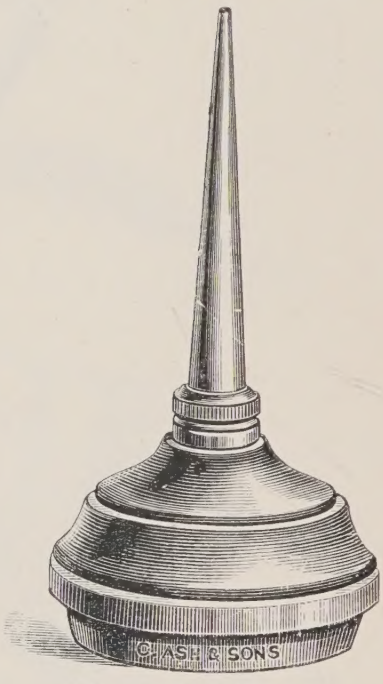
$3\frac{1}{4}$ INCHES HIGH.
$1\frac{1}{2}$,, DIAMETER.

FIG. 2.



$3\frac{3}{4}$ INCHES HIGH.
$1\frac{1}{8}$,, DIAMETER.

FIG. 3.



$3\frac{1}{2}$ INCHES HIGH.
$1\frac{7}{8}$,, DIAMETER.

Fig. 1.—DR. BONWILL'S PATTERN.—This Oil Can is small and neat in appearance, cleanly and economical in use, and eminently suited for the Operating Room. It is so constructed that the oil which remains on the end of the nozzle, when the can is laid down after being used, is caught in the cup A, shown in the illustration. There is an undercut in the bottom of the cup in which the oil lodges each time the can is used. This keeps the lower part always clean and effectually prevents oil stains and soiled fingers.

When there is too much oil in the cup unscrew the nozzle, and the oil will run into the can.

Fig. 2.—FLAT OIL CAN, WITH SCREW-CAPPED NOZZLE.—This Oil Can is suitable for carrying in Visiting Bags, or keeping in the drawers of Cabinets, Bracket Tables, etc. The pin attached to the screw-cap shown by the dotted lines in the illustration is very useful for conveying an extremely small quantity of oil to Handpieces, Lock-Bit Attachments, and other delicate pieces of mechanism, and keeps the nozzle of the Can always clear.

Fig. 3.—The illustration so faithfully represents this Oil Can that description is unnecessary. It is thoroughly well made and heavily nickel-plated.

		s.	*d.*
Bonwill's, Nickel-plated	(Fig. 1)	2	0
Flat Oil Can, Nickel-plated.	(,, 2)	1	0
Ordinary Oil Can, Nickel-plated . . .	(,, 3)	2	0

STANDS FOR ENGINE BITS.

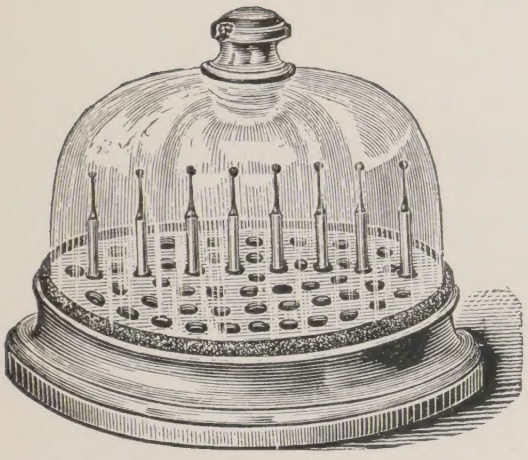


FIG. 2.

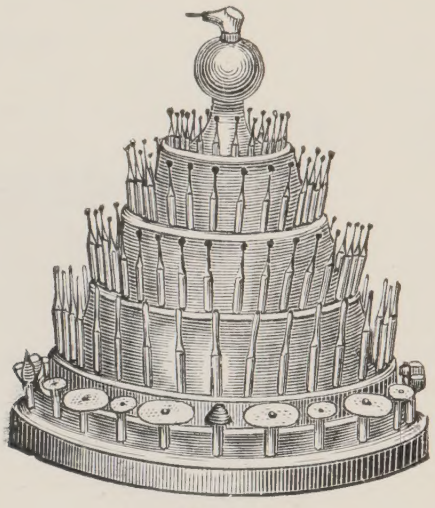


FIG. 5.

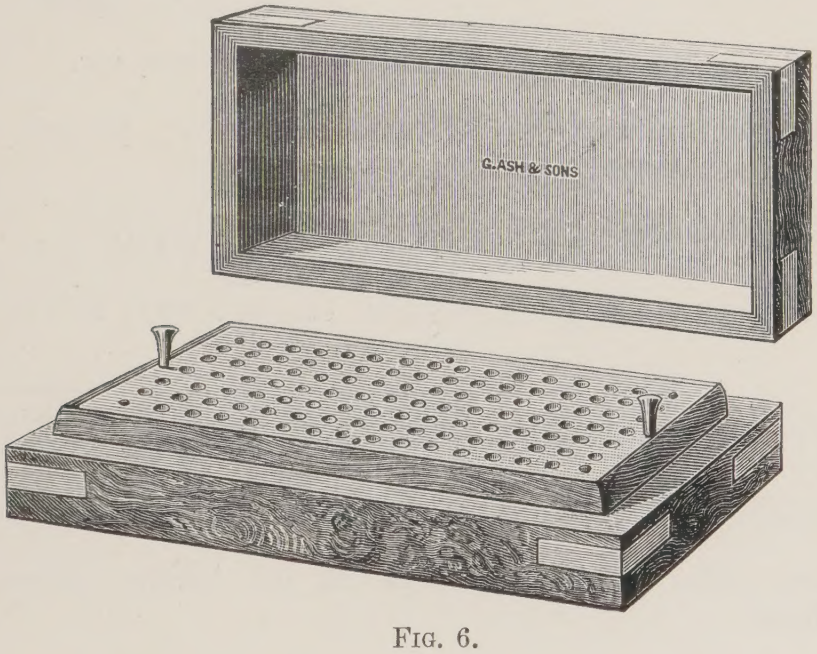


FIG. 6.

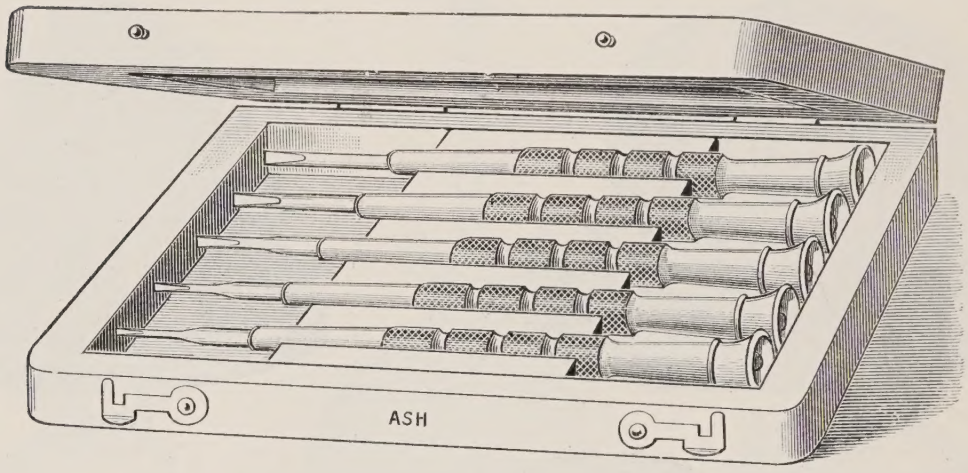
		s.	*d.*
In polished maple or ebonized wood, containing 60 holes . . .	(Fig. 2) each	5	0
The same, minus glass cover	,,	2	6
In polished maple or ebonized wood, with revolving stand and 120 holes	(Fig. 5) ,,	12	0
Stands in ebonized wood, with glass cover, with 73 holes	,,	10	6
,, ,, ,, without ,, ,, 73 ,, ...	,,	7	0

BUR BOXES.

		s.	*d.*
In polished walnut, to hold 108 points	(Fig. 6) each	9	6
In ,, ,, ,, ,, for Straight Handpiece and Lock-bit Attachments, with nickelled metal plate and layer of leather for keeping the instruments oiled	(Fig. 6) ,,	17	6

SMALL SCREW DRIVERS

WITH REVOLVING HEAD.

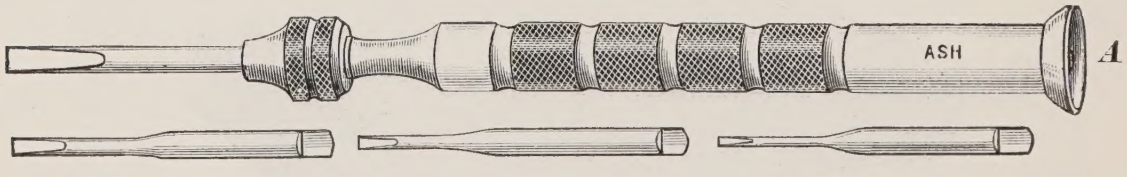


For Handpieces, Regulating Appliances, etc.

		s.	*d.*
Set of 5 in Wooden Box	per set	3	0

POCKET SCREW DRIVER

WITH REVOLVING HEAD *A*, SCREW CLAMP, AND FOUR POINTS.



The three extra points are kept in the handle covered by the revolving head.

	s.	*d.*
PRICE	1	0

OIL FOR ENGINES, Etc.

This is the finest white transparent oil that can be obtained. It is eminently suited for the delicate mechanism of Dental Engines, Handpieces, Mallets, etc.; does not gum or become sticky, and is quite free from smell.

	s.	*d.*
Two-ounce Bottle	**0**	**6**
Six-ounce „	**1**	**6**

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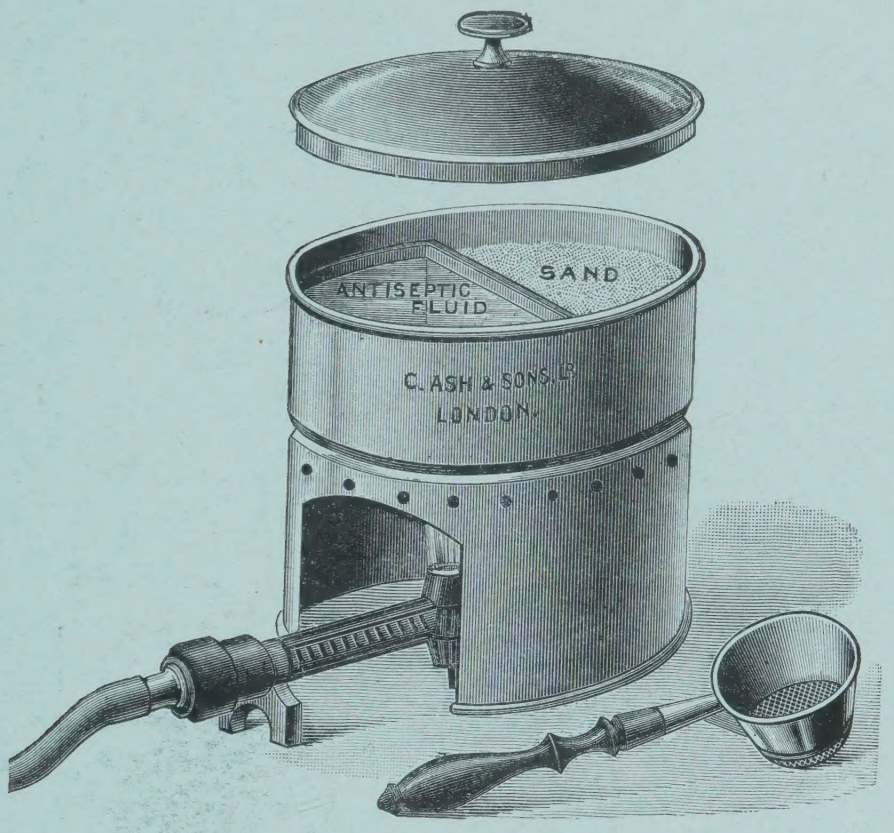
OVAL STERILISER—FIG. 3.



This Steriliser is 6 inches long by $5\frac{1}{4}$ inches wide by $7\frac{1}{2}$ inches high. The upper part is divided into two compartments—one for holding sterilised sand, and the other, which contains a removable pan, for holding a solution of Lysoform, a non-poisonous, non-corrosive, and antiseptic fluid, which does not stain. Any other antiseptic can, of course, be used if desired.

DIRECTIONS FOR USE:

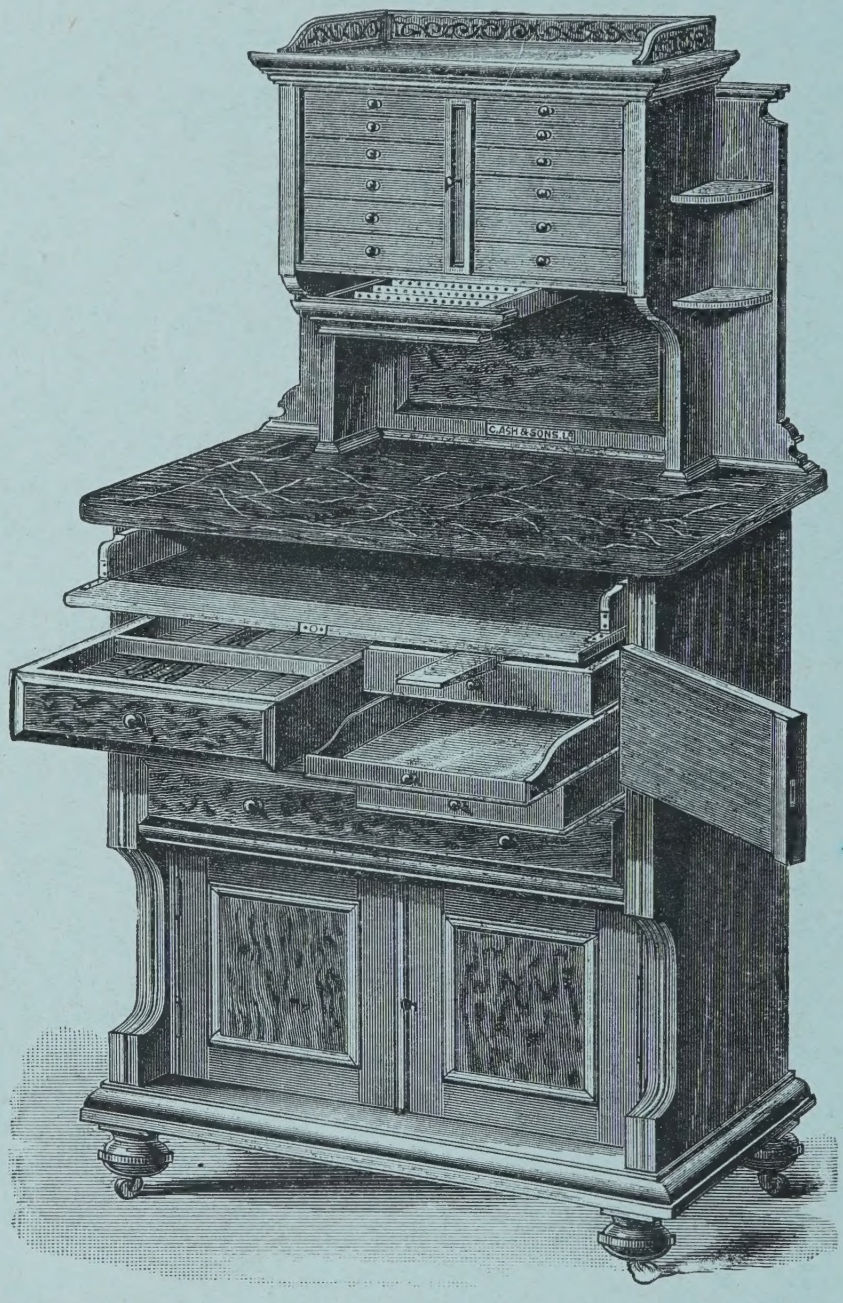
Place long-handled instruments in the solution for a few minutes, then plunge them into the heated sand several times, and they will be bright, clean, and perfectly sterilised.

Burs, Cone-socket Excavators, Clamps, etc., should be placed in the strainer, and immersed in the solution for a few minutes ; then the strainer, with the instruments in it, should be dipped in the hot sand, and the sand should be shaken out. If this is repeated a few times the instruments will be rendered perfectly clean and aseptic.

The Steriliser is made of Copper, Nickel-plated, and is very neat in appearance.

		s.	*d.*
Oval Steriliser, complete with Strainer, Burner, 1-lb. bag Sterilising Sand, and sheet of Uralite .	(Fig. 3)	17	6
Lysoform, in 1-lb. bottles	per bot.	2	6

ASH'S No. 7 CABINET.



Dimensions: 62 inches high; 32 inches wide; 17 inches deep.

With space on top surrounded by fretwork Gallery; with twelve drawers, Bur Drawer, and four side shelves in upper part; with large dark marble slab on top of lower part; and with seven drawers and cupboard in lower part. Of these drawers the top one is an Instrument Table, with falling front; the second right-hand one is fitted with Bench Pin; underneath this there is a zinc-lined drawer for Filings and another for Tools; the second drawer on the left-hand side is fitted with divisions for upper and lower Forceps, and below this there is another the same width for Sundries. The bottom drawer just above the cupboard runs the full width of the Cabinet, and is $3\frac{1}{2}$ inches deep.

	£	*s.*	*d.*
In well-seasoned wood veneered with Walnut	19	0	0
The same with Cupboard on top and Stand for 20 bottles . . .	22	10	0

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5 to 12, BROAD STREET, GOLDEN SQUARE, LONDON, W.

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